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The
**PRACTICAL WORKROOM
SERIES**

719

BOOKBINDING FOR BEGINNERS

By
J. KAY



CASSELL AND COMPANY, LIMITED
LONDON · TORONTO · MELBOURNE AND SYDNEY

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*The following books are included in
this series :—*

BOOKBINDING FOR BEGINNERS.

ADVANCED BOOKBINDING.

SIMPLE ART METALWORK.

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**PRACTICAL AND GEOMETRICAL
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INTRODUCTION

This little book is intended to bridge the gap between the paper-cutting and simple modelling of the lower classes of the Junior School and the more definite craft work of the Senior School. It does not profess to teach a craft. No book can do that fully. Some preliminary exercises, however, involving sound constructional methods and introducing the common materials used in the work, are a necessary preparation for any craft. The Exercises in this book will be found to involve most of the simpler processes required in the work of binding books. The latter will be dealt with in another book of the series—“*Advanced Bookbinding*”—which deals with the sewing, forwarding, covering and finishing of books.

It is not expected that a pupil will work through every exercise. A start can be made at any point suitable to the pupil's development. The teacher should decide which exercises may be omitted by each pupil.

Practice at working from written rather than from verbal instructions is, in itself, very valuable. The pupils should have their own books and work quite independently of each other. Nothing cultivates resource and initiative, self-reliance and the will to persevere, so much as individual work.

Few crafts offer greater opportunity for cultivating the æsthetic sense than Bookbinding. Taste is developed in the choosing of suitable covering papers and in the harmonious selection of colour schemes for bindings and end-papers. The decoration of the finished work could be carried out in the Art lesson.

The equipment necessary for the course is small. Children will bring from home cardboard boxes, brown paper for covering and old newspapers to protect the tables or desks. Sample books of wallpapers may often be obtained for the asking. One of the great virtues of Bookbinding as a handicraft subject is that it is, in the very best sense, economical.

BOOKBINDING FOR BEGINNERS

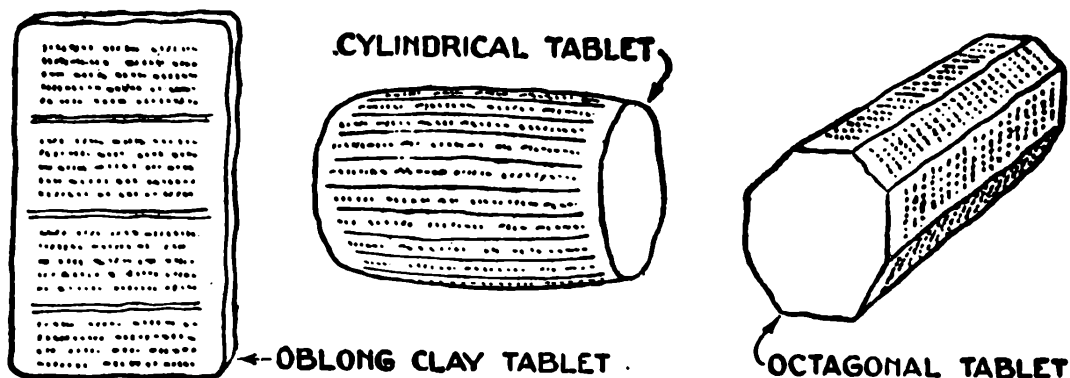
BOOKS AND BOOKBINDING

Many thousands of years ago, the only records of past events were those handed down by word of mouth from parents to their children or were the stories or "sagas" told by the bards and minstrels. Naturally, these records were soon forgotten or they became so changed by repeated telling that they were unreliable.

As time went on, ways began to be found of keeping permanent records. A man wishing to keep a record of some expedition or great event would make a drawing of it. Many such drawings on stones, bones and pieces of horn have been found.

Sometimes the artist did not trouble to draw correctly, but represented a man, for instance, by a few straight lines. This simple way of drawing or writing gradually became a common method of keeping records.

Some of the earliest of these records are to be found in the British Museum. They were written as far back as 3000 B.C. by the Sumerians, a people who lived in Lower Mesopotamia.



They used small oblong tablets of clay and wrote with a square-ended stick or "stylus." The corner of this, when pressed into the clay, made wedge-shaped marks, and because of this, Sumerian writing is spoken of as Cuneiform (wedge-shaped). Clay was used because it was so plentiful, and when baked the impressions were lasting.

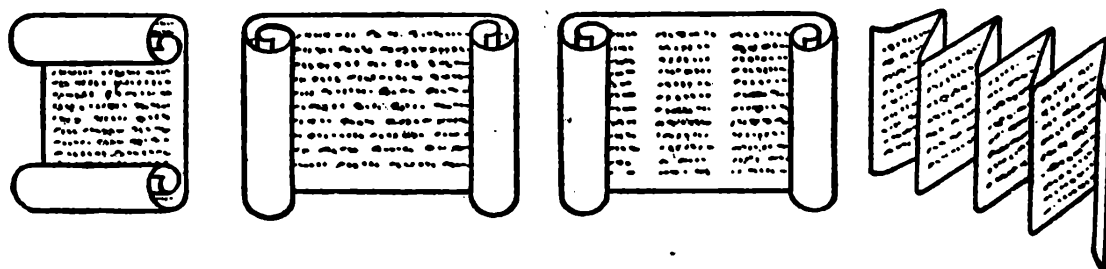
These clay tablets are the earliest books of which we have any record. At first oblong, they were followed later by cylindrical,

hexagonal and octagonal shapes. Libraries were built to house them, librarians were appointed to look after them and even catalogues were kept.

Wax followed clay for the keeping of records. This was melted into a piece of wood hollowed out like a shallow tray. Sometimes leather thongs were used to fasten the trays together at the edge, like the pages of a book.

Meanwhile, in Egypt, records were being kept on papyrus. The papyrus plant was a reed which grew in the marshy districts. The pith was taken out, roughly woven together and then pressed and dried. The papyrus sheets were rolled for ease in carrying and storing, and possibly because of this the library was known as the House of Rolls.

At first the writing was in lines across the roll from side to side, then the lines ran the full length of the roll, and, finally, the writing was in sections like the pages of a book.



DIAGRAMS SHOWING THE CHANGE FROM ROLL TO FOLDED SHEET.

Soon the papyrus began to be folded instead of rolled, and boards were attached to each end to protect it and keep it flat. Then followed the sewing of the pages at the back (usually with a stabbing stitch, as in Exercise 9) and the use of single pages with writing on both sides.

The discovery that parchment, made from the skins of sheep and goats, and vellum from calfskin could be used for writing upon, helped the introduction of the single page because these materials were in small sheets.

For covers, leather gradually took the place of boards as the latter were inclined to warp and crack. Even at the time when the Normans conquered England, books were being bound with leather backs which were often beautifully ornamented.

Books did not become really common until the introduction of printing in the 15th century. Even then they were by no means so plentiful as they are to-day, when much of the work is done by machinery.

MATERIALS

Cardboard.—For the Exercises described in this book, strawboards are quite suitable. Straw is largely used in the manufacture of these and they are imported from Holland. They are yellow in colour and fairly compact, but brittle. The common size is 25 in. × 30 in., but thin boards are generally 22 in. × 32 in. The thickness varies with the weight, which ranges from 8 oz. to 4 lb. per board. Boards of 8 oz., 12 oz., 1 lb., and 1½ lb. are suitable for these Exercises. Should thicker boards be required, two may be glued together. In most cases, cardboard from boxes will serve.

Covering Cloth.—This can be obtained in various colours. Generally, plain cloths are best. Often oddments of printed fabric brought from home may be used effectively.

Covering Papers.—Wallpaper pattern books often supply useful coverings and lining papers. Care must be exercised in choosing suitable papers.

Imitation cloths, marbles, leathers and similar fancy papers should be avoided. Plain coloured papers and ordinary brown paper are the best for use when the cover is to be decorated.

Lining Papers.—These may be bought in various colours and patterns. Several methods of making them are described in the chapter on Decoration.

Glue.—To prepare this, wrap it in a piece of cloth or waste paper and break it into small pieces. Place the pieces in the container, cover with water and leave overnight before heating. When ready for use, the glue should be free from lumps and should run easily from the brush. Before using glue, the brush should be placed upright in it and the glue “frothed up” by rotating the brush between the palms of the hands. Various preparations of liquid glue are to be obtained, most of which are quite serviceable.

Paste.—There are several excellent dry pastes on the market which keep well, and which only require the addition of cold water. If desired, a good paste may be prepared as follows :—

To a cup of white flour add a teaspoonful of alum and a few drops of oil of cloves. Gradually add three cups of cold water, stirring well to keep free from lumps. Bring the mixture to the boil, stirring all the time until it thickens.

TOOLS

Bradawl.—Fine.

Brush.—For glue.

Brushes.—For paste. A few of these will be required.

Cutting Boards.—If bought, these are generally zinc or millboard. Serviceable boards can be made by gluing together sheets of cardboard. As the surface becomes worn, a new sheet should be added. A worn board is a frequent cause of bad cutting.

Eyelet Crusher.

Eyelets.—Various colours to match cloth or paper used.

Folders.—Bone folders are best, but serviceable ones may be made of any hard wood.

Hole Punch.—The “ four ” hole or “ six ” hole spring punch pliers are recommended.

Knives.—Ordinary cardboard knives will serve. These must be kept sharp at the point.

Needles.—Small darning needles can be used.

Oil and Oilstone.

Rulers.—It is advisable to use the “ safety ” pattern.

Scissors.—Almost any kind will do.

Set-squares.—Either 45° or 60°.

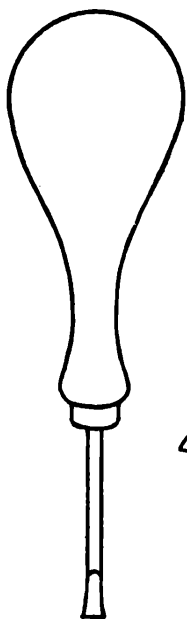
Tape.—Bookbinder's tape is stiff and the best for use, but, for the Exercises of this book, waste pieces of covering cloth may be used or draper's tape stiffened by gluing or pasting.

Thread.—Strong linen thread is best.

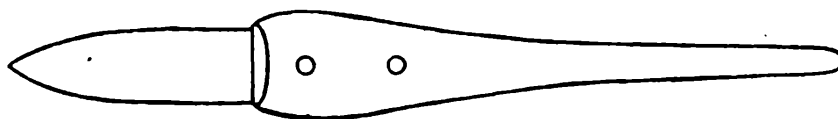
Try-squares.—The special bookbinding type is best, but any ordinary try-square will serve.

Glue Kettle.—Keep this two-thirds full of water. Should it become dry, allow it to cool before refilling, or it may crack

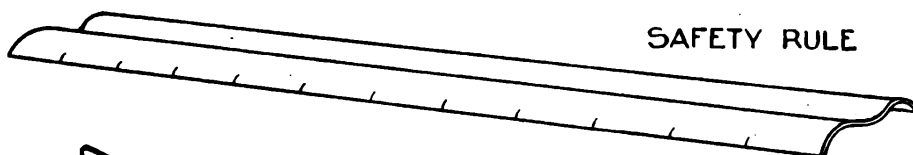
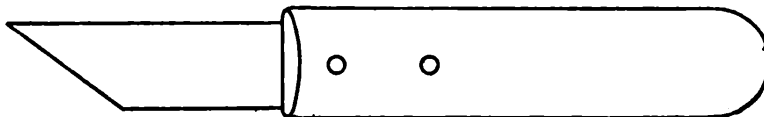
TOOLS



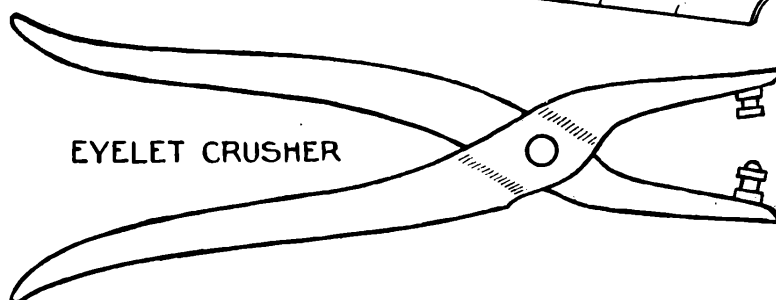
BRADAWL



TYPES OF KNIVES



SAFETY RULE



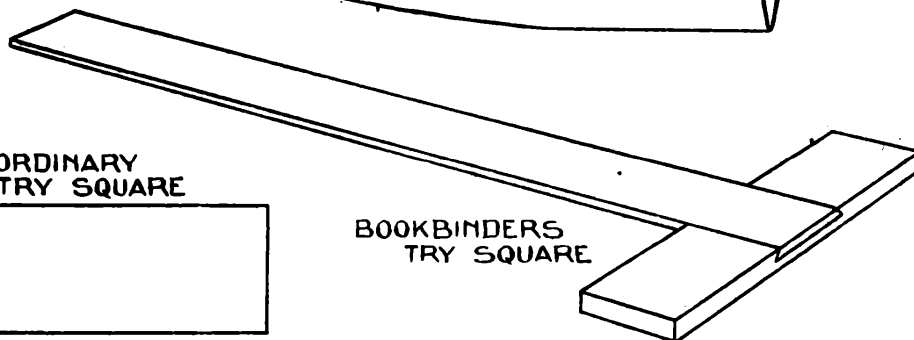
EYELET CRUSHER



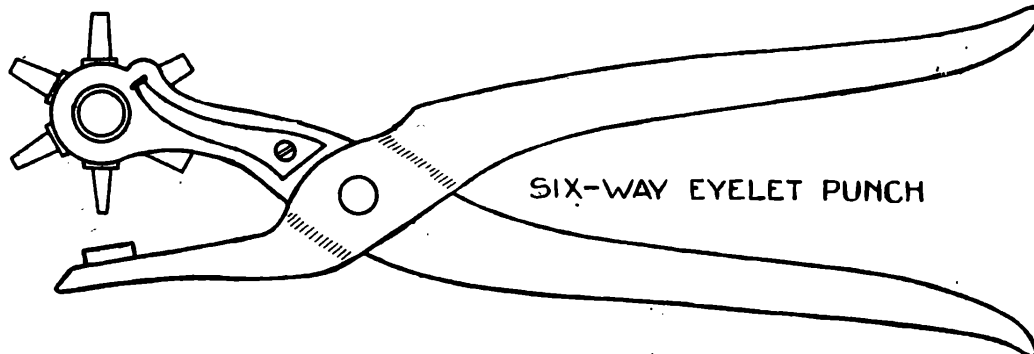
FOLDER



ORDINARY
TRY SQUARE



BOOKBINDERS
TRY SQUARE



SIX-WAY EYELET PUNCH

GENERAL HINTS

How to Use this Book.

Before commencing an Exercise, read through the whole of the notes relating to it. Study the diagrams, imagine yourself performing each operation, try to "see" in your mind the Exercise growing with each operation as you read. Though you will have to refer to the notes as you work, you should get this general outline of the whole process first. After studying the notes and diagrams, see that you have ready at hand all the material and tools you will require.

Cleanliness.

Always use an old newspaper to protect the table or bench from glue and paste. The paper will also help to keep your work clean. See that both your tools and your hands are clean. If you dirty your hands with glue or paste, wash them before commencing work again.

Keep the room clean. Do not allow glue or paste to drop on the floor. Remember that small pieces of paper on the floor make a room very untidy and are difficult to sweep up. Waste paper should be placed in the basket. Spare pieces you wish to keep for some future Exercise should be stored in your work-holder.

Cutting with a Knife.

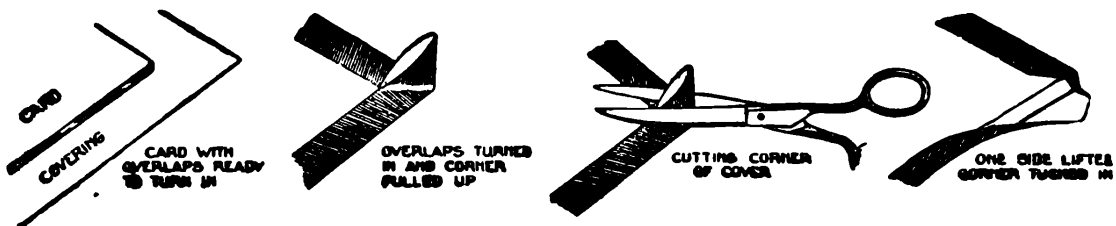
When cutting, hold your knife as you would a pen or pencil. Always cut on a cutting board. Do not cut on a worn board or with a blunt knife. For clean cutting, the work must be firmly supported and the knife sharp. Always pull the knife *towards* you. Never cut away from yourself, *e.g.* from left to right. Press heavily on the rule and lightly on the knife. This is very important. If you allow the rule to slip you will rarely get it back exactly where it was before. Many light cuts on the same line will produce a better result than a few heavy ones on different lines.

In the early Exercises, scissors will be used for cutting, but as soon as you begin to use a knife for cardboard, you should use it also for cutting long lengths of paper. It is quicker to do so and you will get a straighter edge.

Covering.

Cut out covers about $\frac{1}{2}$ in. larger all round than the card or book you wish to cover.

When the surface to be pasted is fairly large, the brush should be gripped in the hand with the bristles downward, i.e. with the little finger nearest to the bristles. Begin in the centre of the material and draw the paste outwards to the edges. In doing this, some paste will be spread on your waste paper. Place your cardboard or book on the cover, lightly rub it down, then pick up the cardboard. The covering paper will come with it. Now fold the waste paper so that the pasted portion is inside and put it back on the table. Lay the cover on the waste paper again and quickly turn in the overlaps with your folder. Squeeze the folds at the corners between the finger and thumb and cut them off with the scissors flat on the cardboard. Now lift up one side, rub down the other, tuck in the small overhanging corner and rub down the remaining side.



The edges of the cover should not be rounded, but should be rubbed down clean and square.

All these operations must be done very quickly before the paste dries ; you should therefore practise them with spare pieces of paper and card without the use of paste until you are sure of the method and can perform each process quickly. The above remarks apply to cloth and glue as well as to paper and paste.

Cloth and paper stretch when pasted or glued. When they dry they contract and thus pull the cardboard or cover out of shape, causing it to bend or warp. Always after covering, therefore, the card or book should be placed under a weight. Do not use a very heavy weight or the glue may be pressed through the cloth or paper and spoil the surface.

EXERCISE 1.

LUGGAGE LABEL

Method of Construction.

1. Draw the rectangle as on the page opposite and also the lines marked AB and AC.
2. Run the folder over AB and AC, using it as a pencil. This will make the paper fold more easily.
3. Fold the corners over as shown by the arrows.
4. Fold the point A over to position A₁.
5. Punch the hole and attach a piece of string.

EXERCISE 2.

CASE FOR COMB OR SEASON TICKET

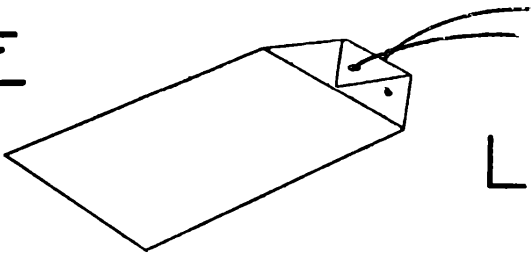
Method of Construction.

1. On a piece of strong paper draw the case as on the opposite page, first altering the dimensions to suit the comb or ticket for which it is intended.
2. Cut away the shaded portions.
3. Run the folder over the dotted lines.
4. Fold over the flaps A and B.
5. Paste the upper side of the flaps.
6. Turn C down over them and press well until it is firmly held.

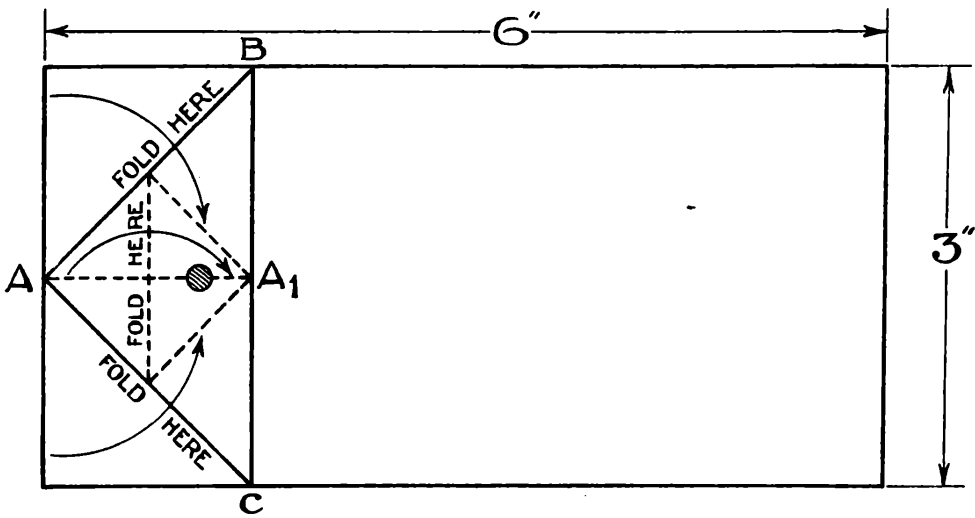
If a stronger case is required, make of thin cardboard after first covering one side with binding cloth or suitable covering paper.

If the case is to hold a season ticket, a hole may be cut, as indicated by the lightly dotted lines, to show the date when the ticket expires.

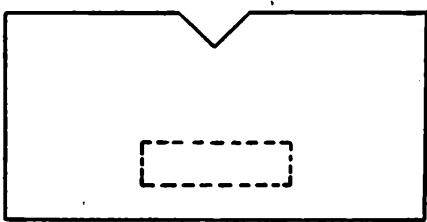
LUGGAGE



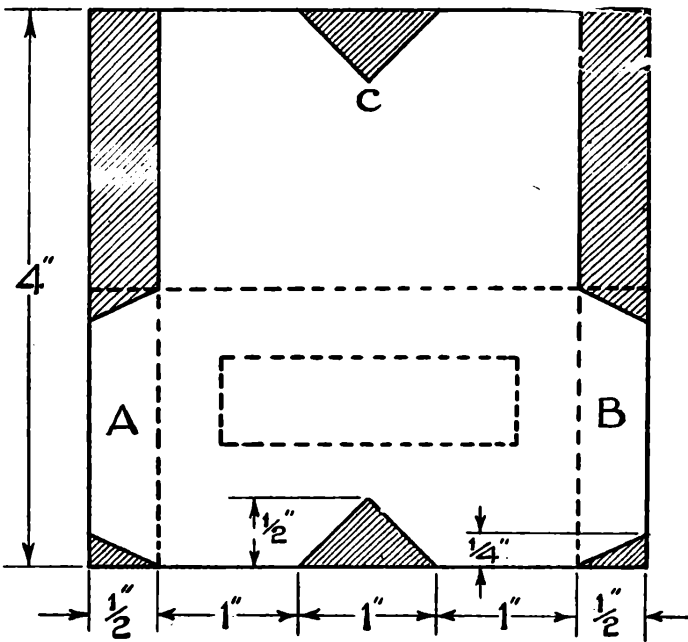
LABEL



TICKET
CASE



OR COMB
CASE



EXERCISE 3.

RECTANGULAR ENVELOPE

Method of Construction.

1. On a sheet of good white paper draw out the pattern for the envelope.
2. Cut away the shaded portions.
3. Run the folder over the dotted lines.
4. Fold over the small corner flaps.
5. Gum one long flap down on to them.
6. Gum the inner edges of the remaining flap and leave to dry.

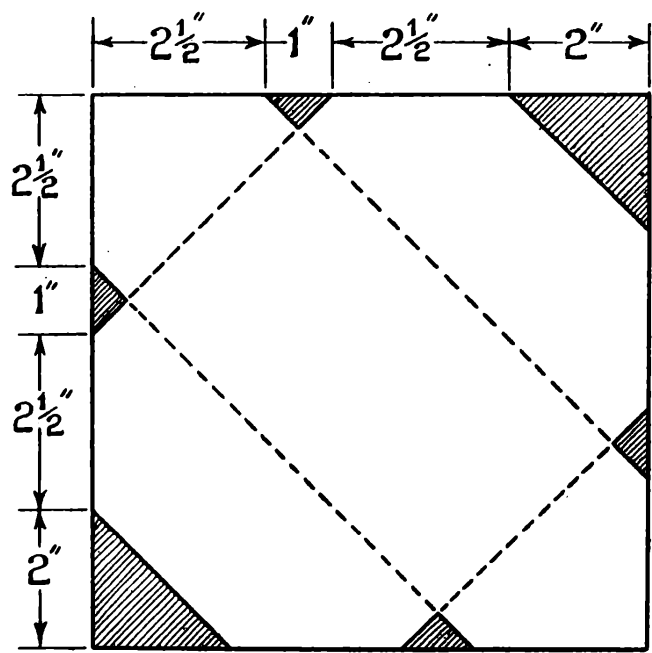
EXERCISE 4.

WORK HOLDER

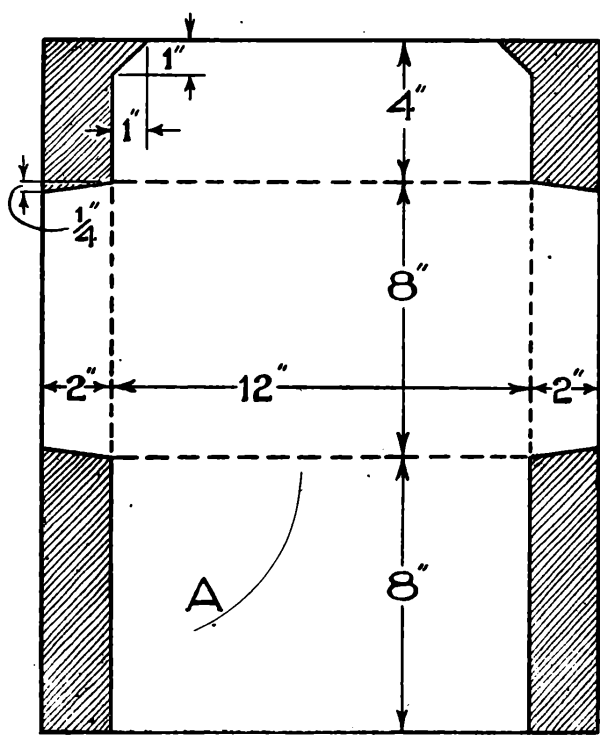
Method of Construction.

1. On a sheet of strong brown paper draw a rectangle 20 in. $\times$ 16 in., and in this set out the work-holder as on the page opposite.
2. Cut out the shaded portions.
3. Run the folder over the dotted lines.
4. Fold over the flaps and paste the large flap A down to them. Leave the remaining flap loose.

PATTERN FOR ENVELOPE



PATTERN FOR WORK HOLDER



EXERCISE 5.

DETACHABLE COVER FOR BOOK

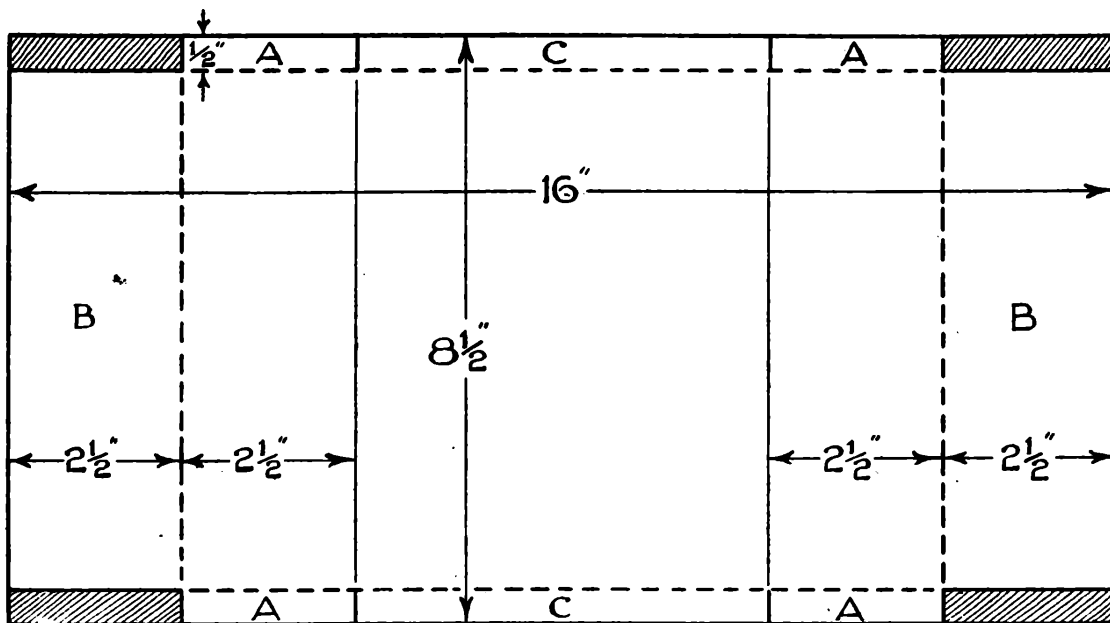
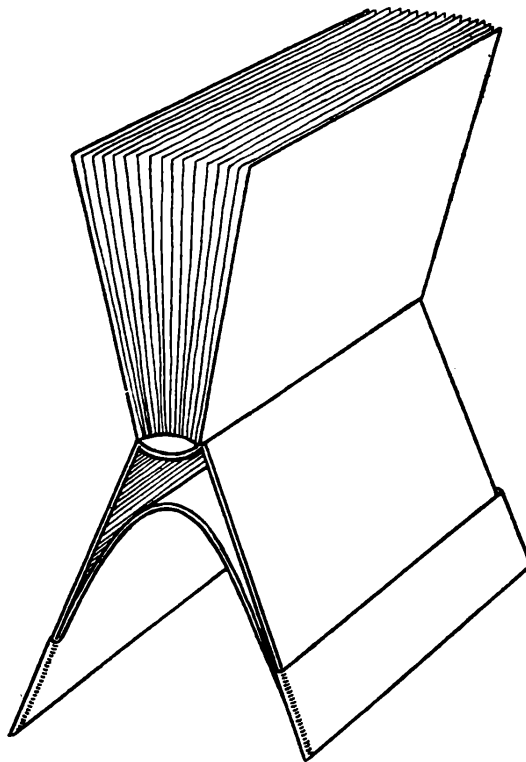
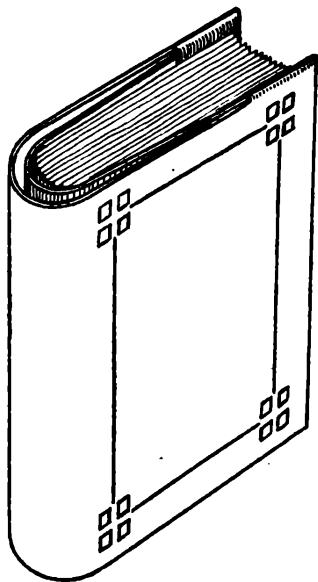
This is a detachable cover for the protection of library and similar books which are changed fairly often. The sizes must, of course, be adjusted to suit the size of book most frequently used.

Method of Construction.

1. On a sheet of good stout paper draw out the pattern of the cover as illustrated on the opposite page.
2. Draw the folder along the dotted lines so that the paper will bend easily and accurately.
3. Cut away the shaded portions and make the short cuts between flaps A and C.
4. At each end, fold over the flaps A and paste down to them flaps B, thus forming a pocket at each end of the cover for the backs of the book.
5. Fold over and paste down the flaps C to strengthen the edges.

The sketch on the opposite page will show how to insert the book into the cover.

DETACHABLE COVER FOR BOOK



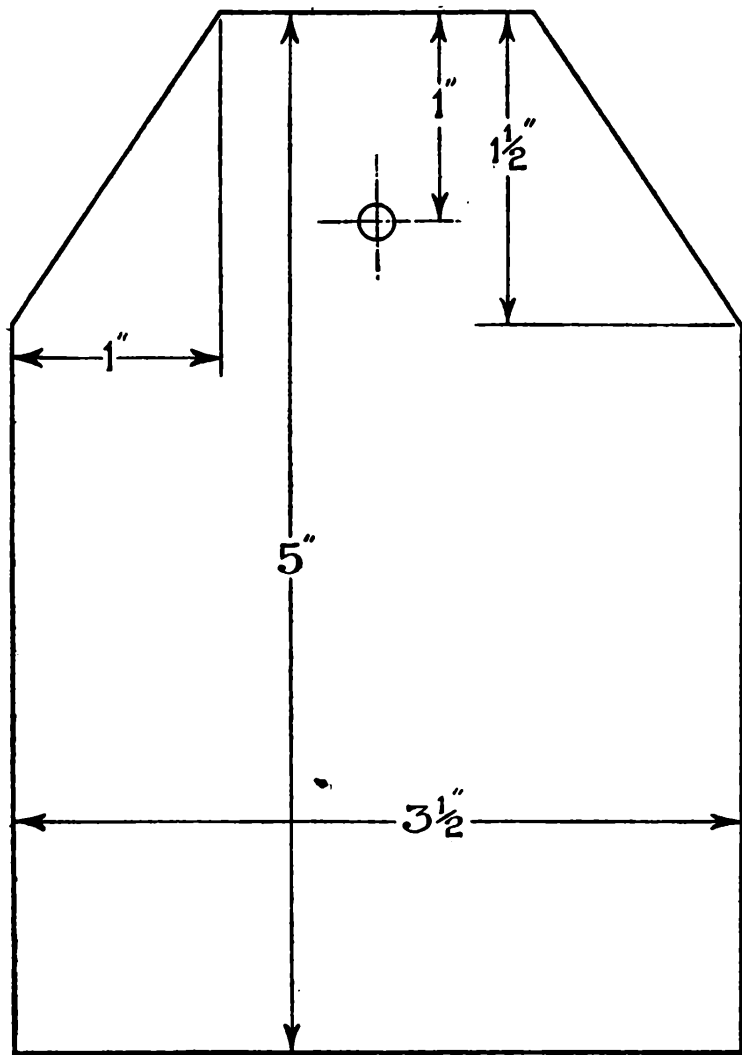
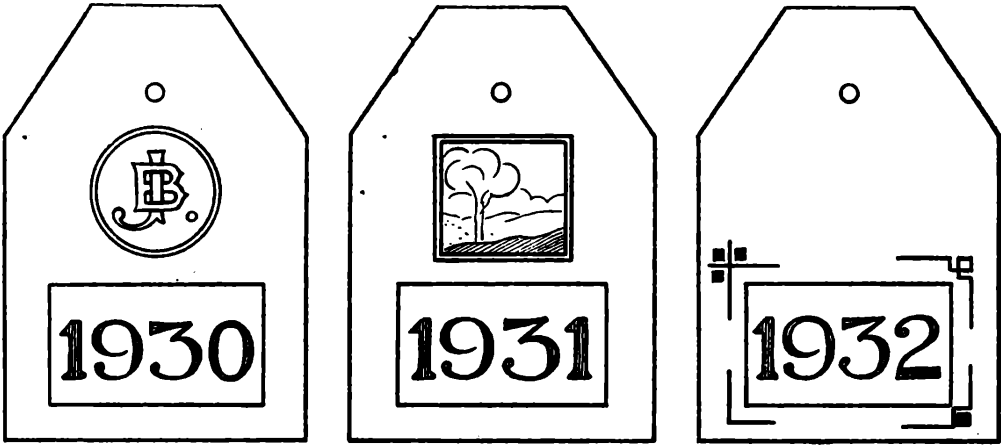
EXERCISE 6.

A SIMPLE CALENDAR

Method of Construction.

1. Read the notes on "Cutting with a Knife" and "Covering" on pages 10 and 11.
2. Draw and cut out the back of the calendar in a medium thickness of strawboard. Cardboard from boxes will serve quite well.
3. Cover the front of this with a suitable paper.
4. Cover the back of it with a plain paper. This should be $\frac{1}{8}$ in. from the edge all round.
5. Punch the hole.
6. Fix the calendar to the front with paste. These small booklet calendars may be bought at stationers' for a penny each.
7. If a plain paper has been used for covering, it may be decorated. Various methods of doing this are shown in the small sketches. In one are to be seen four suggestions for a border round the calendar itself.

A SIMPLE CALENDAR



EXERCISE 7.

A "PULL OFF" CALENDAR

Method of Construction.

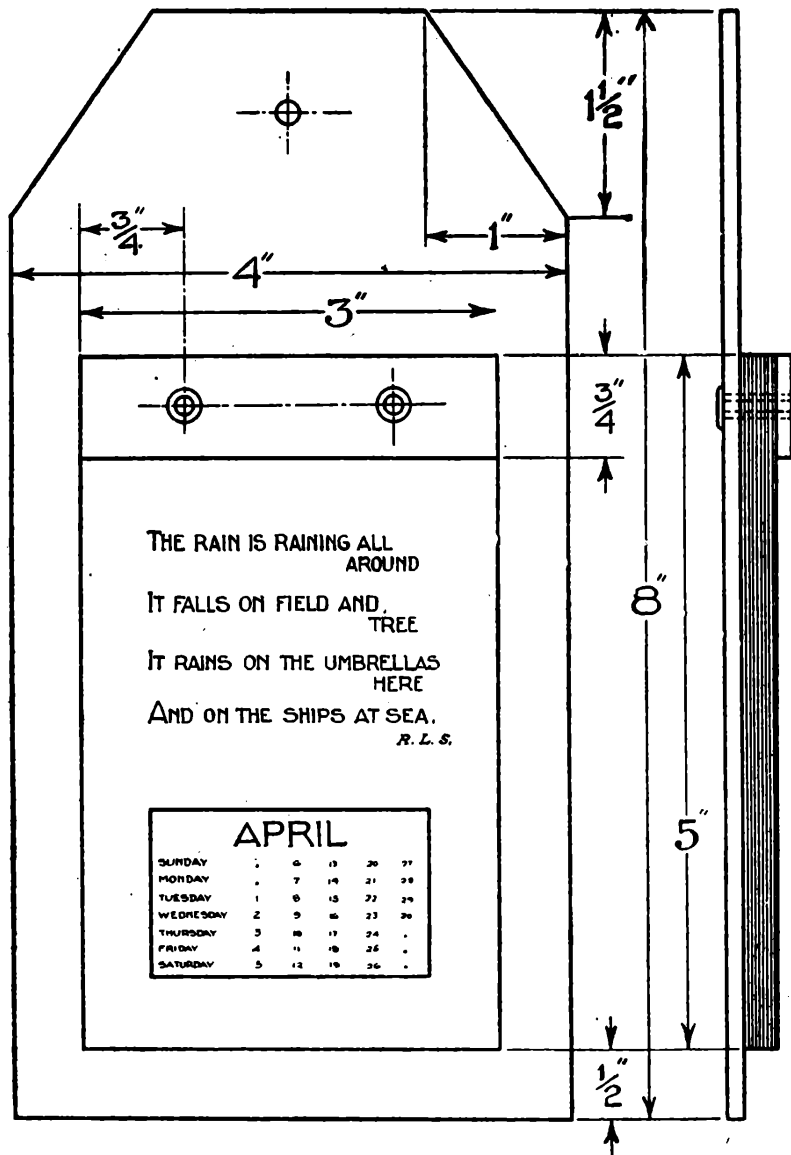
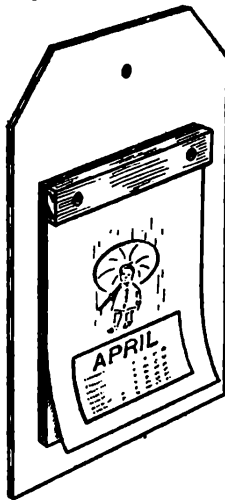
1. Read the notes on "Cutting with a Knife" and "Covering" on pages 10 and 11.
2. From stiff cardboard cut out the back for the calendar to the measurements shown on the diagram opposite.
3. Cover this with a suitable paper. In choosing this, consideration must be given to the colour of the other sheets required.
4. Cut twelve sheets of coloured pastel paper to the size shown.
5. Paste monthly tabs from a small calendar, such as was used for the last Exercise, one on each sheet. If desired, the student may draw out and make his own tabs.
6. Cut out, or paint, suitable pictures for each month, *e.g.* a winter scene for January, an "April shower" scene, etc., and mount them above the tabs, fixing them with a little paste.
7. Cut a piece of cardboard $\frac{3}{4}$ in. wide and as long as the width of the sheets.
8. Suitably cover this.
9. Punch two holes through cards and sheets as illustrated, and fasten with eyelets or with ribbon.
10. Punch the hole for hanging.

Instead of cutting out or painting pictures for this calendar, another way of making each monthly sheet interesting is to print on each a quotation from a suitable poem, and so illustrate in the words, instead of in line and colour, the chief characteristics of the month. One such sheet with a verse by R. L. Stevenson is shown.

Each sheet might be illustrated by a quotation from this poet, *e.g.*, January—from "Winter Time"; February—from "Picture Books in Winter"; March—from "The Wind"; April—"The Rain," etc., and so a "Stevenson" calendar could be made.

Other poets might be treated in the same way, or the quotations might be general, *e.g.*, September—from "September," by Mary Howitt; October—from "Autumn Fires," by R. L. Stevenson; November—from "November," by Alice Carey; December—from "Santa Claus," by Sarah Whitman.

A "PULL OFF" CALENDAR



EXERCISE 8.

SIMPLE SINGLE SECTION BOOK

Method of Construction.

1. Take from 8 to 12 sheets of paper—unused sheets from old exercise books will do—and fold them down the middle, rubbing down each with the folder. Place these inside one another. They then form a “section.”
2. Fold a piece of strong brown paper, pastel paper or thin card for a cover.
3. Place the folded sheets inside the cover, hold them loosely in the hand and tap the top—or “head”—of the book on the table so that the tops of the sheets come together.
4. Sew the sheets, using a small darning needle and strong thread. Always commence sewing from the inside of the section. Small sheets should be sewn as in Fig. 1, starting and finishing in the middle on opposite sides of the long stitch. If sheets of larger size have been used, sew with three stitches as in Fig. 2, or with four as in Fig. 3. In each case, tie the ends over the long stitch. Always carry the sewing to about $\frac{1}{4}$ in. from each end so that the pages are held strongly.
5. Mark out the width of the book, top and bottom, from the back. This should be as wide as possible, i.e., the width of your *narrowest* page.
6. Cut off the edges of the pages with knife and safety rule.
7. With a set-square or, better still, with a try-square mark off lines at the top and bottom (“head” and “tail”) of the book at right angles to the back—Fig. 4.
8. Cut the top and bottom.
9. Add title and decorate cover.

SIMPLE SINGLE SECTION BOOK

FOUR SUGGESTIONS
FOR DECORATION
OF COVER

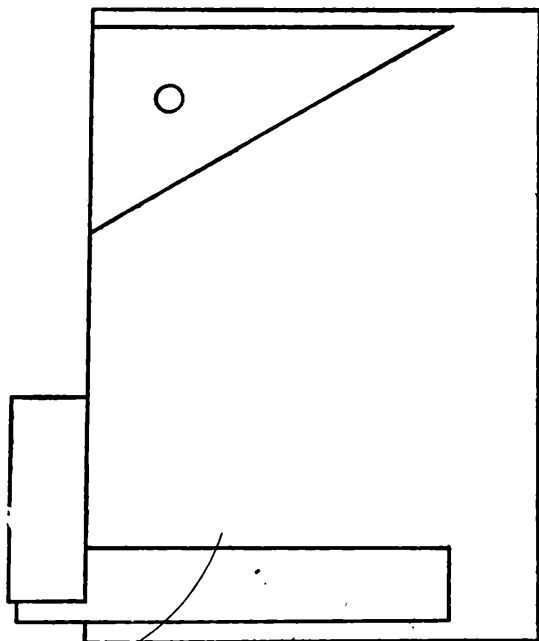
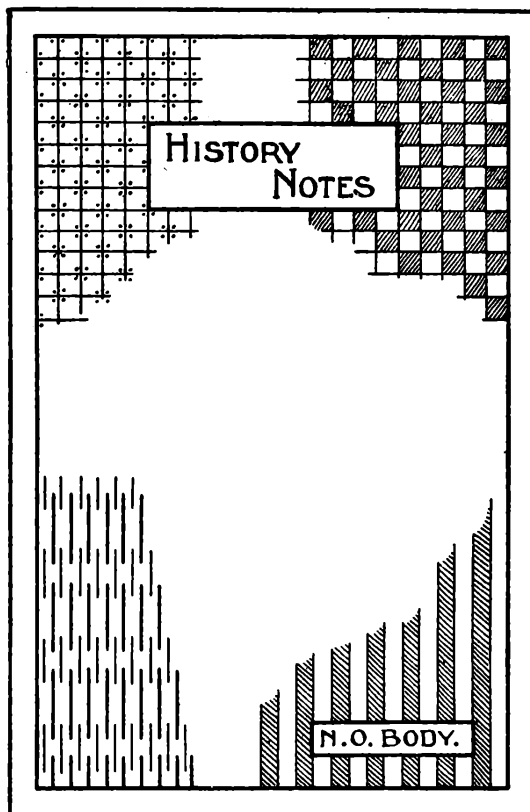


FIG. 4

MARKING OFF HEAD AND TAIL
WITH SET SQUARE OR TRY SQUARE



FIG. 1

SEWING
WITH
TWO
STITCHES



FIG. 2

SEWING
WITH
THREE
STITCHES



FIG. 3

SEWING
WITH
FOUR
STITCHES

EXERCISE 9.

A BOOK FROM SINGLE LEAVES

This is a method of sewing together a number of single sheets into the form of a book. Only as many sheets should be treated in this way as will make a very thin book. This method of sewing single leaves is known as "stabbing."

Method of Construction.

1. If necessary, cut off the back edges of the sheets to make them straight.
2. Add end-papers—a clean sheet of paper at the beginning and end of the sheets.
3. Knock up the sheets to the head and back as if straightening a pack of cards.
4. Fan-out the leaves slightly from the back—Fig. 1. The heads and tails of each should be in a straight line, but each edge at the back should be drawn $\frac{1}{8}$ in. away from the one immediately below it.
5. Cover the top sheet with a piece of waste paper and glue the fanned-out edge with thin glue—Fig. 1.
6. Immediately knock the sheets straight again at the back on a sheet of waste paper.
7. Place the sheets under a weight until the glue is dry.
8. With a small bradawl make holes through the book, about 1 in. apart and $\frac{1}{4}$ in. from the back, along the glued edge. Rule a line so that the holes are straight. The top and bottom holes should be $\frac{3}{4}$ in. from the head and tail—Fig. 2.
9. Sew the book, beginning from the back and at the centre hole. Tie the ends of the thread together at the back—Fig. 3.
10. If necessary cut the head, tail and front edge ("fore-edge") as in Exercise 8.
11. Add appropriate design and title.

A BOOK FROM SINGLE LEAVES

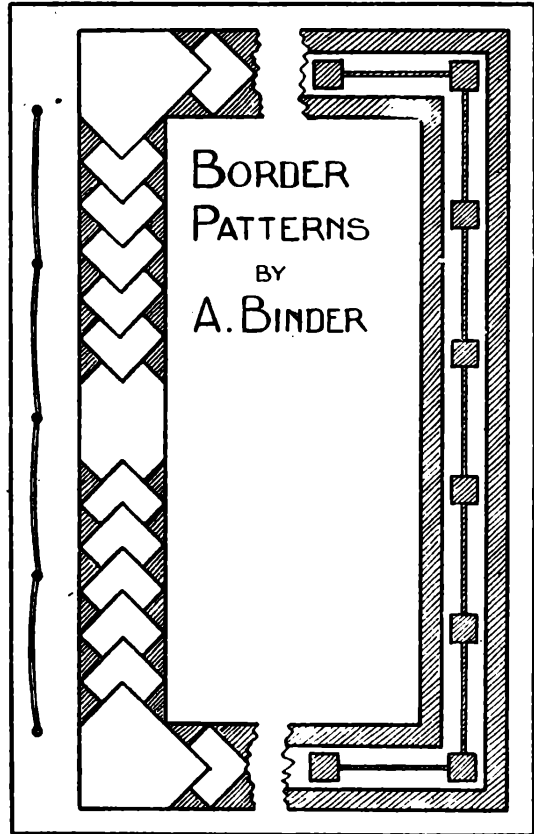
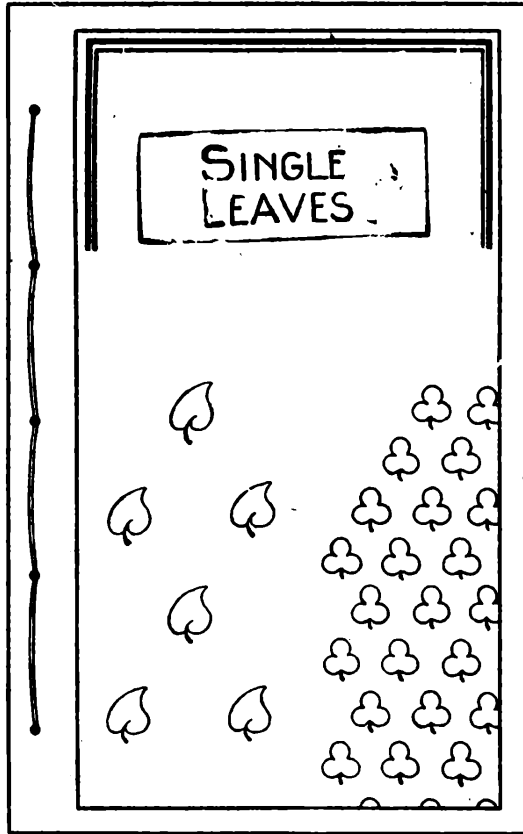


FIG. 3 METHOD OF STITCHING

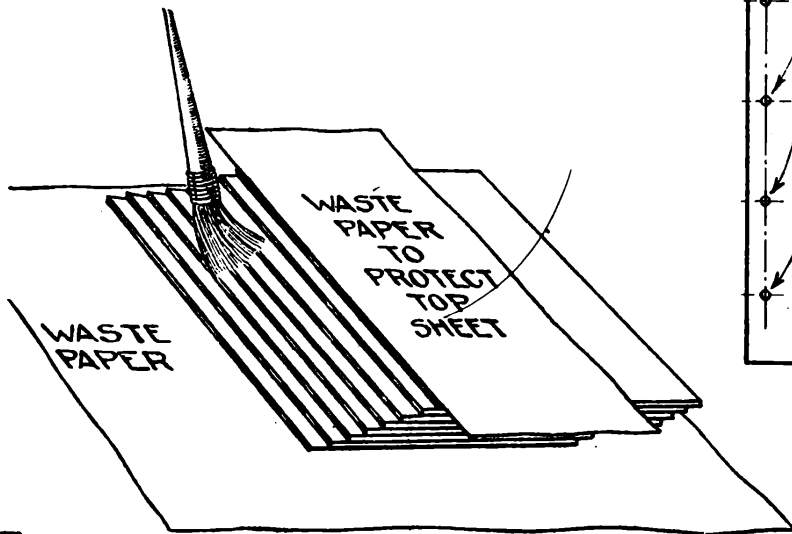


FIG. 1 PAGES FANNED OUT FOR GLUING

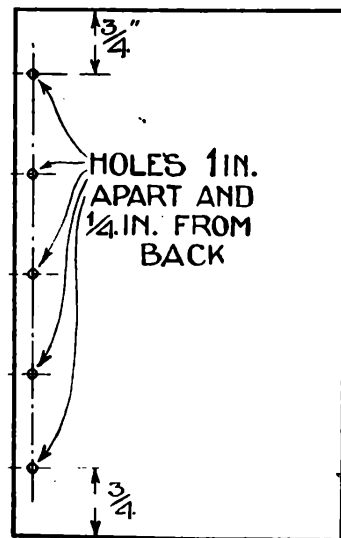


FIG 2
STABBING

EXERCISE 10.

SMALL LOOSE LEAF COVER

Method of Construction.

1. Cut three pieces of strong card to the sizes shown in the diagram opposite—Fig. 1.
2. Cut a piece of covering cloth $14\frac{1}{2}$ in. $\times$ $5\frac{1}{2}$ in.
3. Mark out on the inside of this cloth the position of each piece of card, taking care that they are accurately spaced and in line with each other.
4. Glue the cloth, place the cards in position and complete the covering.
5. Cut a piece of cloth $4\frac{1}{2}$ in. $\times$ $2\frac{1}{2}$ in.
6. Glue this and place it over the two joints—Fig. 2. Rub it down well in the joints with the folder.
7. Complete the covering of the two large cards with suitable lining papers reaching to $\frac{1}{8}$ in. of the edge all round—Fig. 2.
8. Mark out the positions for the holes and punch them—Fig. 1.
9. Cut single leaves slightly smaller than the cover and punch holes similar to those in the cover.
10. Attach a suitably coloured ribbon to hold the leaves in place or fix with rings which are sold for this purpose.
11. Add simple decoration.

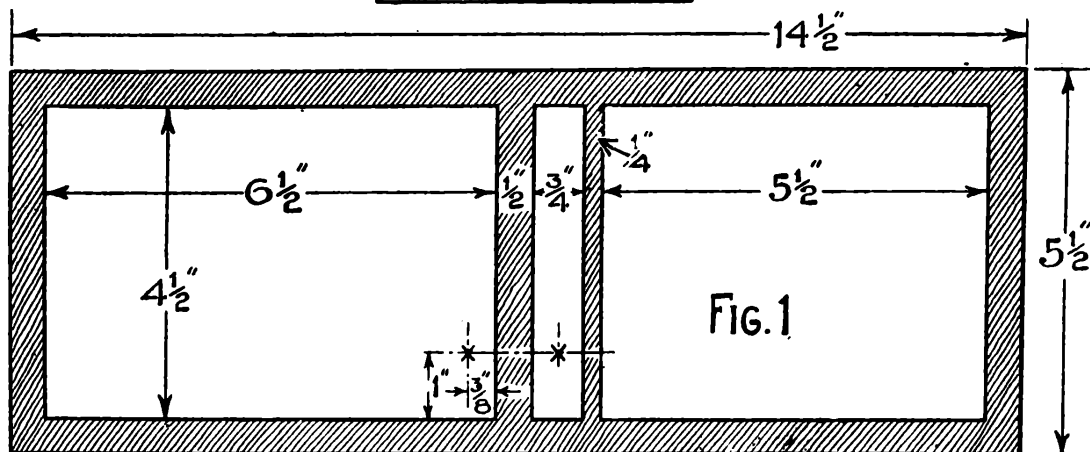
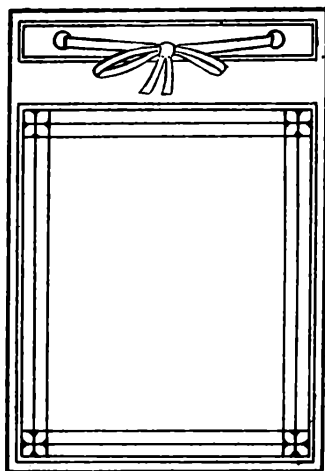
EXERCISE 11.

ALBUMS

Method of Construction.

1. Decide what size of leaf is required, according to what is to go into the album—cigarette cards, post-cards or holiday snaps, etc.
2. Cut pages and “guards” from coloured pastel paper. Guards are strips to be placed between the leaves. They may be as in Fig. 3 for single leaves or as in Fig. 4 for folded leaves. The guards are to separate the pages so that the book does not become too thick when cards are placed between the leaves. If desired, the leaf may be folded to act as a guard as in Fig. 5.
3. If single sheets have been used, the pages may be bound as in Exercise 9 or 10. If double or folded leaves have been used, they may be sewn and bound as in Exercise 8 or 14.

SMALL LOOSE LEAF COVER



CLOTH WITH CARDS IN POSITION READY FOR TURNING OVER OF CLOTH
POSITION OF HOLES AT ONE END MARKED BY CROSSES

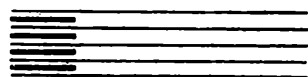
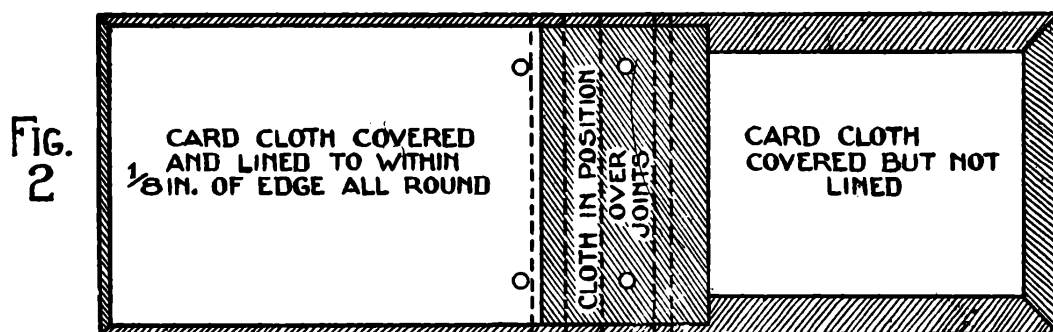


FIG. 3
GUARDS BETWEEN
SINGLE LEAVES



FIG. 4
GUARDS BETWEEN
FOLDED LEAVES

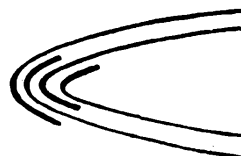


FIG. 5
GUARDS AND LEAF
IN ONE

EXERCISE 12.

BLOTTING PAD

Method of Construction.

1. Cut a piece of $1\frac{1}{2}$ lb. or 2 lb. strawboard to the required size, 10 in. $\times$ 8 in.
2. Read the notes on "Covering" (p. 11), and then cover one side of the card, overlapping the covering paper, $\frac{1}{2}$ in. on the other side.
3. Cut two pieces of cloth $3\frac{1}{2}$ in. square and cut these again along one diagonal.
4. On the back of each of these pieces draw lines as in Fig. 1.
5. Cut off the shaded portion.
6. Place a piece of waste paper over each corner piece to protect it, leaving clear only the long $\frac{1}{4}$ in. strip. Glue the back of this strip, take away the waste paper and fold the strip over so as to give strength to the edge. Cut off the projecting corners of this strip—Fig. 2.
7. Get ready four pieces of strawboard $\frac{1}{8}$ in. thick. The thickness may be made up of various pieces, and any waste board will serve so long as there is one square corner on each.
8. Take one of the corner pieces, protect the right angle you have made in the middle with a piece of waste paper, and glue the two $\frac{3}{4}$ in. wide edges.
9. Place one of the four pieces of strawboard over the right angle. Over this place one corner of your large covered board, covered side downwards, and fold over the two glued overlaps, rubbing down the edges squarely—Fig. 3.
10. Fix the other three corner pieces in the same way and leave all four under a weight until they are dry.
11. Cover the back to within $\frac{1}{8}$ in. of the edge all round.
12. Take out the pieces of strawboard from the corners and fill up with sheets of blotting paper.

BLOTTING PAD

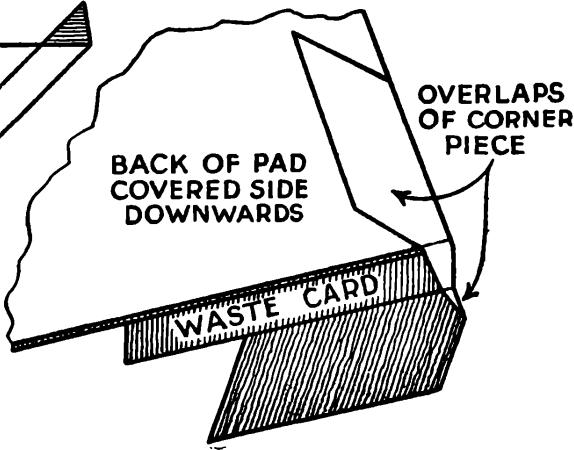
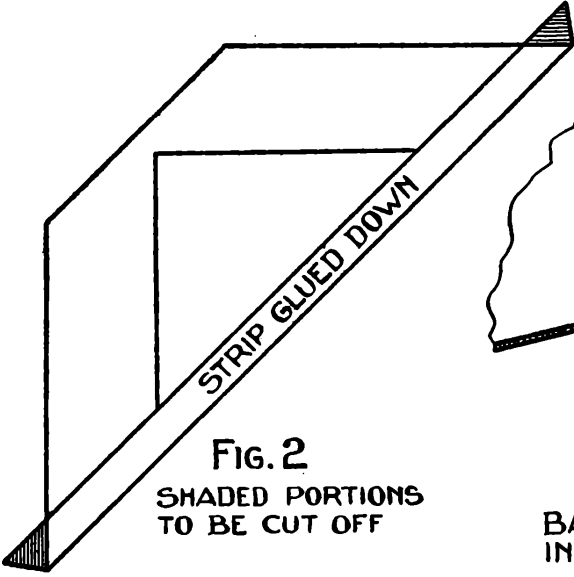
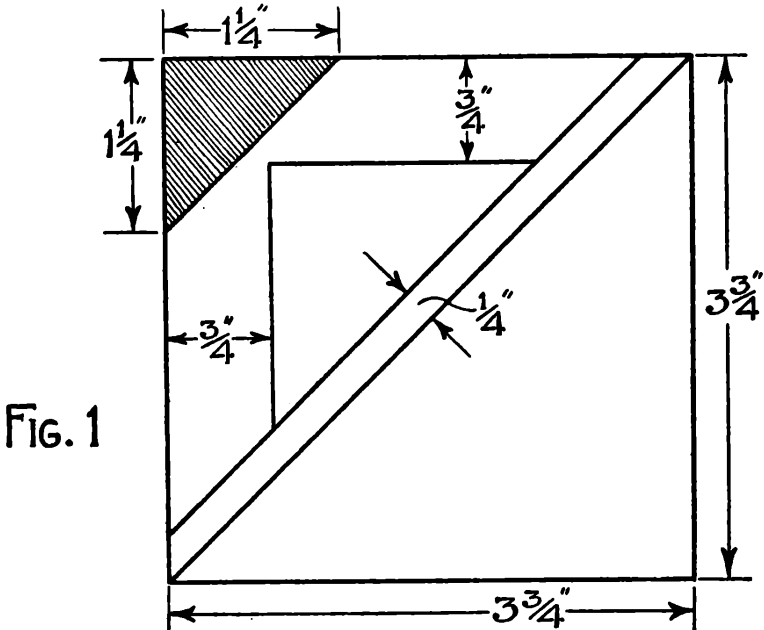
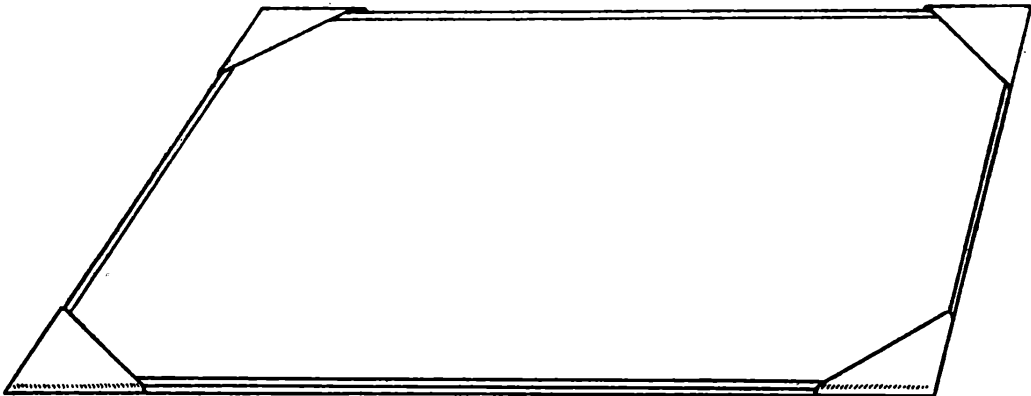


Fig. 3
BACK OF PAD AND WASTE CARD
IN POSITION WITH ONE OVERLAP
GLUED DOWN

EXERCISE 13.

MAGAZINE COVER IN HALF BINDING

Method of Construction.

1. Cut two boards of $1\frac{1}{2}$ lb. or 2 lb. strawboard, each 1 in. longer and $\frac{1}{4}$ in. wider than the magazine which the cover is to enclose.
2. Draw a line on each, parallel to a long side and one-fifth the width of the board away from it.
3. Cut out a paper pattern for a corner, one-fifth the width of the boards in addition to the $\frac{1}{4}$ in. required for turning—Fig. 1.
4. Using this pattern, cut out four cloth corner pieces—Fig. 2. Glue these and cover two corners of each board.
5. Cut a piece of paper as long as the boards and as wide as the thickness of the magazine—Fig. 3. This is called a "hollow."
6. Cut a piece of cloth 1 in. longer than the boards and the width shown in Fig. 3.
7. Glue the cloth. Place the boards in position so that the lines drawn on them are in line with the edge of the cloth. Place the paper strip, or "hollow," between them as in Fig. 3, turn over the lap at top and bottom and rub well down.
8. Cut another piece of cloth wide enough to overlap $\frac{1}{2}$ in. only on the boards, and long enough to reach to within $\frac{1}{8}$ in. of the top and bottom—Fig. 4.
9. Glue this piece and fix it over the joint on the inside, rubbing it down well between the boards.
10. Cover each board with a suitable paper, allowing it to overlap about $1/16$ in. on the cloth at the corners and back, and wrap-over $\frac{1}{2}$ in. on the inside—Fig. 5.
11. Line the inside with paper overlapping the cloth down the middle $\frac{1}{8}$ in. and reaching to within $\frac{1}{8}$ in. of the sides.
12. Punch holes $\frac{1}{4}$ in. from the head and tail and fix eyelets.
13. Tie a piece of coloured cord round the back and through the holes to hold the magazine in place.
14. Neatly print the name of the magazine on the cover.

MAGAZINE COVER IN HALF BINDING



Fig.5

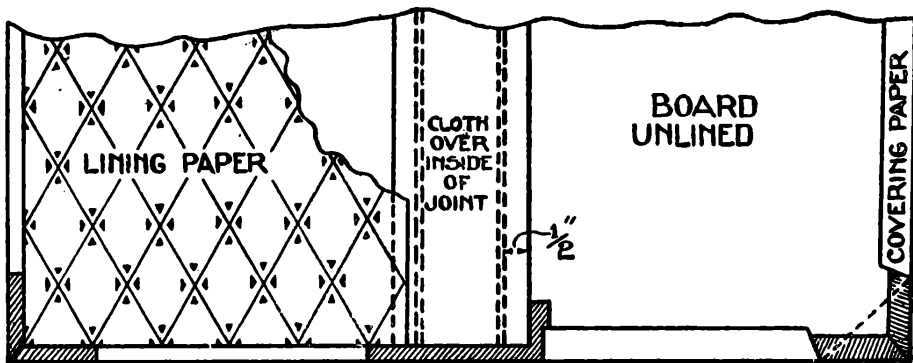
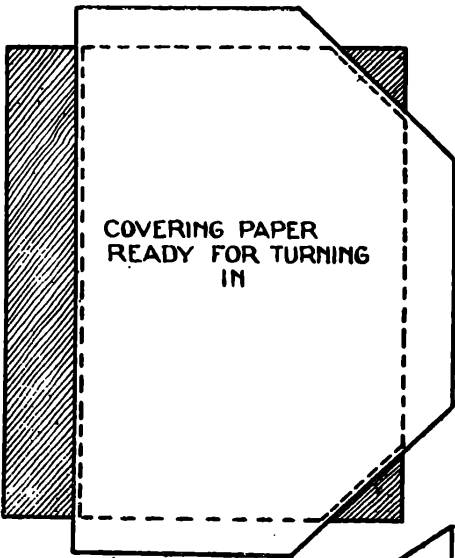


Fig.4

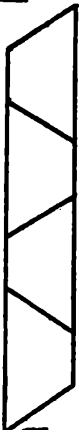


FIG. 2

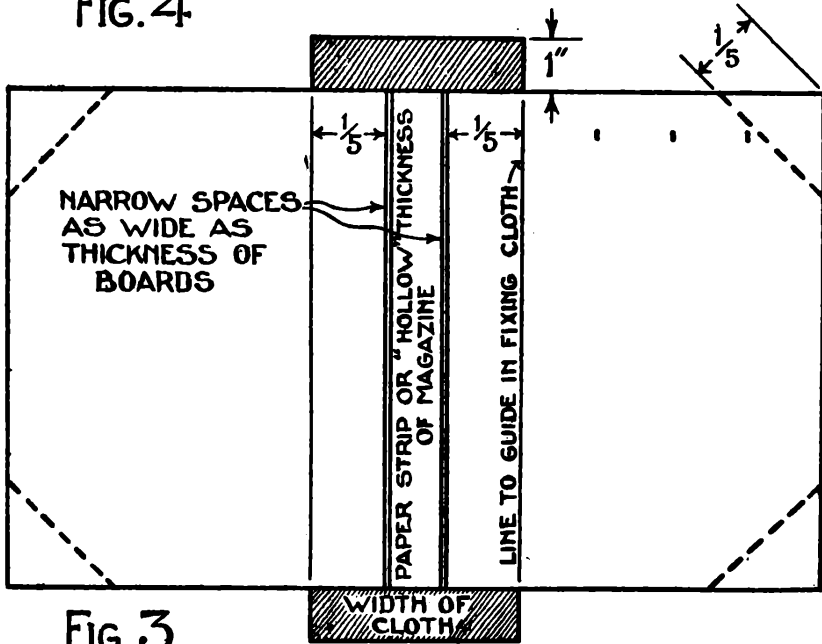


Fig.3

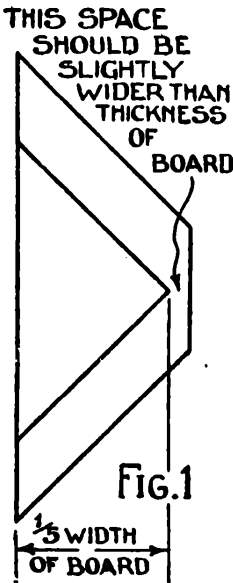


FIG.1

EXERCISE 14.

SINGLE SECTION BOOK WITH COVERED BACK

Method of Construction.

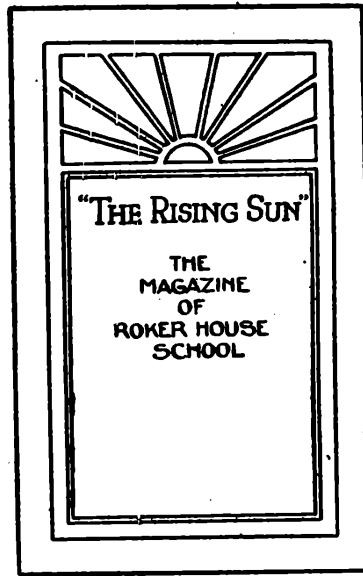
1. Make the book as in Exercise 8, with a thin card cover sewn along with the section. If an old book is being rebound, add also a sheet of white paper between the section and the card.
2. Cut out and glue a piece of covering cloth or paper $\frac{1}{2}$ in. larger all round than the book.
3. Hold the book by the pages, place the back in position on the cloth, rub it down and fold over the two sides—Fig. 1.
4. Turn the book on its end as in Fig. 2, first placing a small piece of waste paper as shown to prevent glue or paste marking the book.
5. Bend back the cover from the book and turn in the top strip—Fig 2.
6. Squeeze up and cut off the corners, rub down the edges with a folder and turn in the bottom strip in the same way.
7. Put a waste sheet of paper in each end between the cover and the leaves, and press the book under a weight until it is dry.
9. The first and last sheets must now be cut down $\frac{1}{8}$ in. at the head, tail and fore-edge. Slip a cutting board or a piece of waste cardboard under the sheet—Fig. 3—and cut it down with knife and rule.
10. Paste each of these sheets, after first inserting a piece of waste paper between it and the rest of the book. Close each cover on the sheet as it is pasted and finally put under a weight until dry.

Repairing a Torn Leaf.

To repair a torn leaf, touch both sides of the tear with paste and lay strips of tissue paper underneath and over the tear. Close the book and put a weight on it. When the tissue paper is dry, carefully remove the loose portions by pulling them off in the direction of the tear.

Repair corners with paper of the same kind as the leaf. Cut the new piece to the shape of the tear and paste it down for a width of about $\frac{3}{8}$ in. along the torn edge. When dry, cut the corner square and carefully scrape the two pieces at the join to remove all loose edges.

SINGLE SECTION BOOK^{WITH} COVERED BACK



COVER BENT
BACK

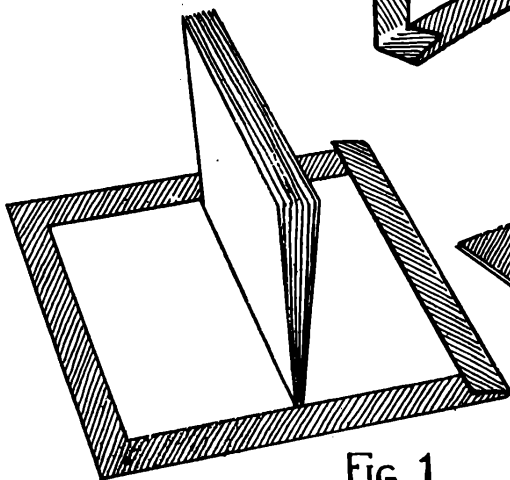
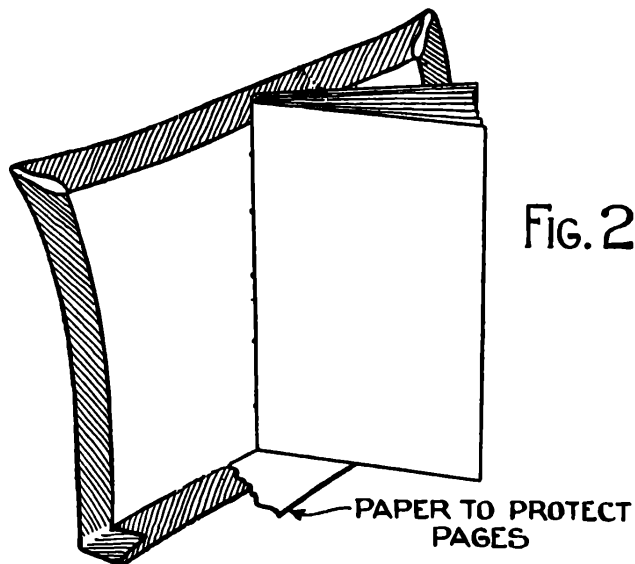


FIG. 1
BOOK IN POSITION ON CLOTH
WITH ONE SIDE FOLDED OVER

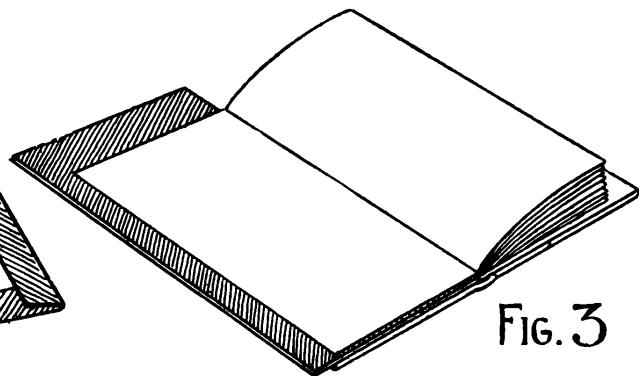


FIG. 3
CUTTING BOARD
INSERTED READY
FOR CUTTING
END PAGES

EXERCISE 15.

LARGE PORTFOLIO

Method of Construction.

1. Cut four pieces of 1 lb. or $1\frac{1}{2}$ lb. strawboard to the following sizes : two pieces 9 in. $\times$ 6 in. ; two pieces 6 in. $\times$ 2 in. and one piece 9 in. $\times$ 2 in. Cut the corners off the narrow pieces as in Fig. 1.
2. Cover the two large pieces with cloth, leaving a space of $\frac{1}{2}$ in. between them. Cut a $\frac{1}{2}$ in. strip of paper to use as a gauge or measure for spacing these and the flaps.
3. Cover the inside of the joint to within $\frac{1}{8}$ in. of each end with a strip of cloth overlapping $\frac{3}{4}$ in. on each side.
4. Cut three pieces of cloth large enough to cover the flaps and having, in addition, $\frac{1}{2}$ in. for the joint and $\frac{3}{4}$ in. for overlapping. Cut off the fold on the overlap portion—Fig. 2.
5. Cover the flaps and fix them to the *inside* of the back by gluing the $\frac{3}{4}$ in. overlap on the *outside*.
6. Cover the inside of each joint with a strip of cloth reaching to within $\frac{1}{8}$ in. of each end and overlapping $\frac{3}{4}$ in. on each side. "Mitre" these pieces at the corners, *i.e.*, cut them so that they meet at an angle of 45° as in Fig. 1.
7. Make cuts where shown in Fig. 1, and fix tapes, gluing the short ends of the tapes down to the inside of the back.
8. Cover the inside portion of all the pieces with suitable paper.

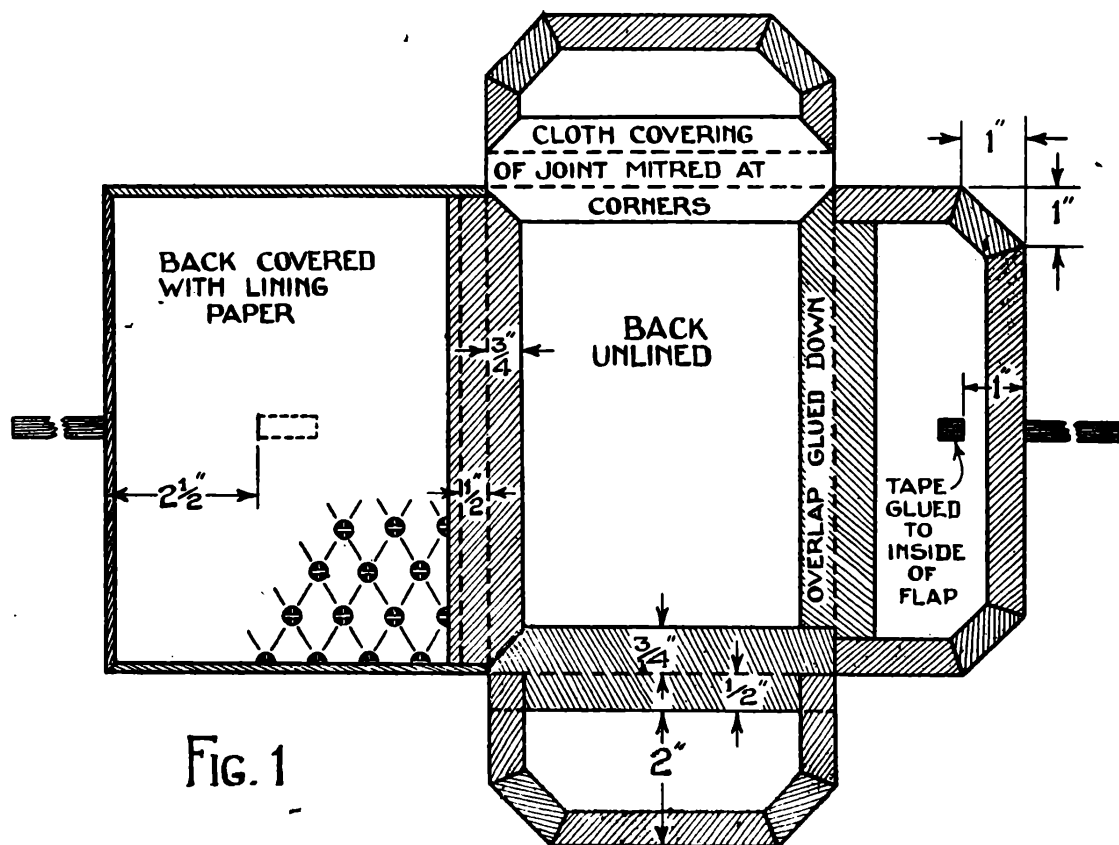
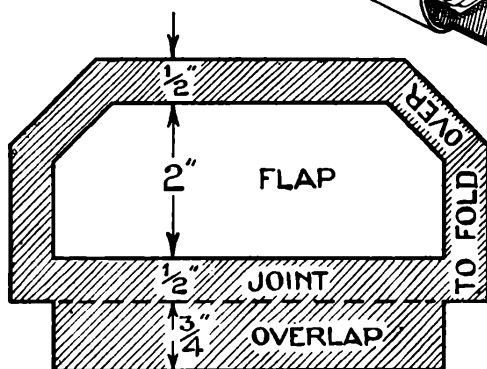
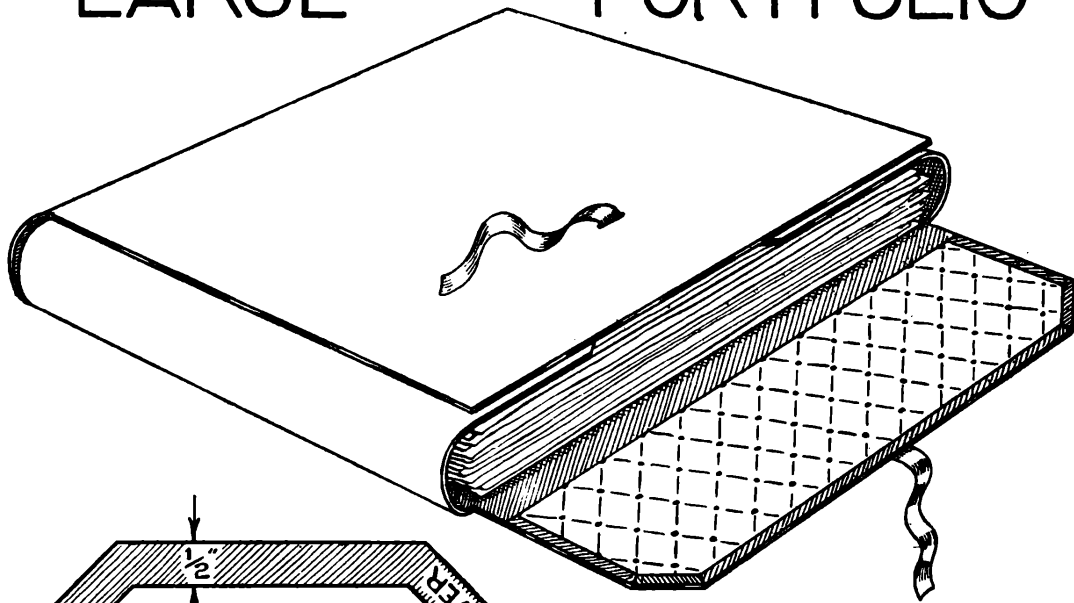
If desired, cloth may be used for the joints only, as with the Magazine Cover, Exercise 13. The remainder of the portfolio may then be covered with paper.

Tipping.

Occasionally single leaves or plates (maps or pictures) are "tipped," *i.e.*, a narrow strip about $\frac{1}{2}$ in. wide is pasted down the back edge and the leaf or plate is attached to the next leaf. To paste a leaf ready for tipping, place it on a sheet of waste paper, cover it, except for the $\frac{1}{2}$ in. wide strip, with another sheet of waste paper and paste the narrow projecting strip.

LARGE

PORTFOLIO



EXERCISE 16.

WORKCASE

Method of Construction.

1. Cut three pieces of $1\frac{1}{2}$ lb. or 2 lb. strawboard to sizes shown in Fig. 1.
2. Cut strips of cloth 24 in. $\times$ $2\frac{1}{2}$ in. ; 10 in. $\times$ $2\frac{1}{2}$ in. ; $8\frac{3}{4}$ in. $\times$ $2\frac{1}{2}$ in.
3. Using the two short pieces of cloth, join boards A and C, shown in Fig. 1. The joint is similar to that of the Magazine Case—Exercise 13.
4. Fix tapes as shown in Fig. 1.
5. Cover the inside of the two large boards with lining paper.
6. Draw lines on the inside of the long cloth strip $\frac{1}{2}$ in. from the long edges.
7. Cover the space between these two lines with lining paper. Use thin glue for this.
8. Draw out the cloth strip on the inside as in Fig. 2.
9. Fold the strip along the lines as shown in Fig. 2, keeping the cloth side outwards except for the long middle fold. If the folder is drawn over the lines on the inside of the fold, it will cause the cloth to bend more easily and accurately.
10. Cut out the small shaded portions.
11. Glue and fix down the two long edges X and Y—Fig. 2. Then glue and fix down the other edges—Fig. 3. The extra $\frac{1}{2}$ in. on the two short ends should be folded over to strengthen the edge of the cloth.
12. Cover the outside with a suitable paper and line the inside of the flap.

Repairing a Book.

When a book is to be rebound, all torn leaves must be repaired, loose leaves must be joined by "guards," and plates or illustrations must either be guarded or "tipped" (p. 34).

Guarding.—Cut strips of thin, strong paper—"bank" paper is very good for the purpose—about $\frac{3}{8}$ in. or $\frac{1}{2}$ in. wide. To guard a pair of loose leaves paste a strip of the paper, lay the leaves upon it and rub them down. If the leaves are the outside pair of the section, place the guard on the inside. All others should have the guard on the outside. Guard single leaves or plates round the next section, taking care to place the guard, wherever possible, on the back of the plate. A book of single leaves may be guarded and sewn as if the leaves were double, but this should not be done unless the book is very thin.

WORKCASE

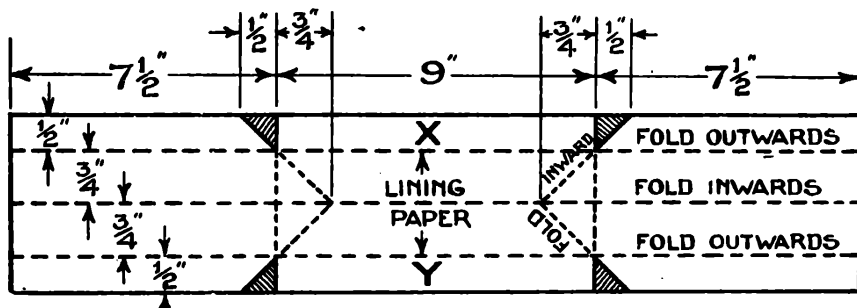
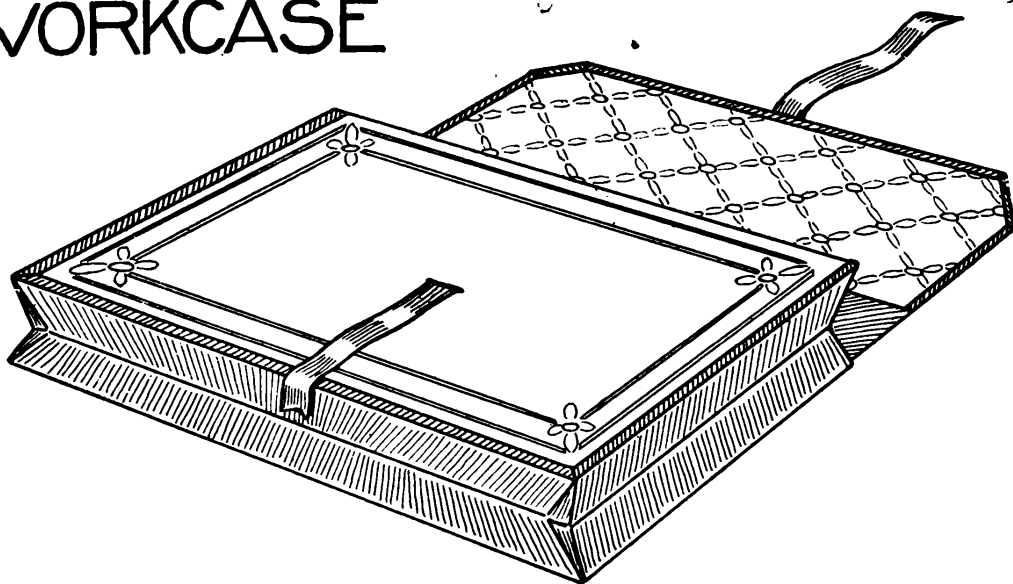


FIG. 2

INSIDE (PAPER)
OUTSIDE (CLOTH)

FIG. 3

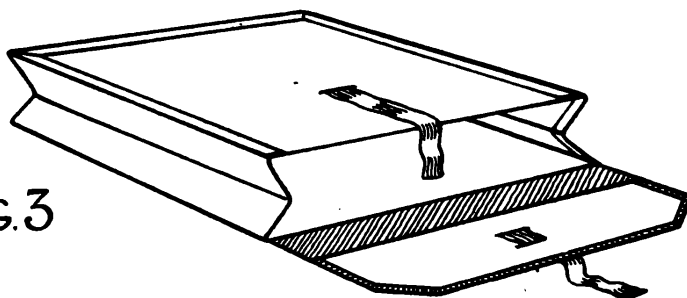
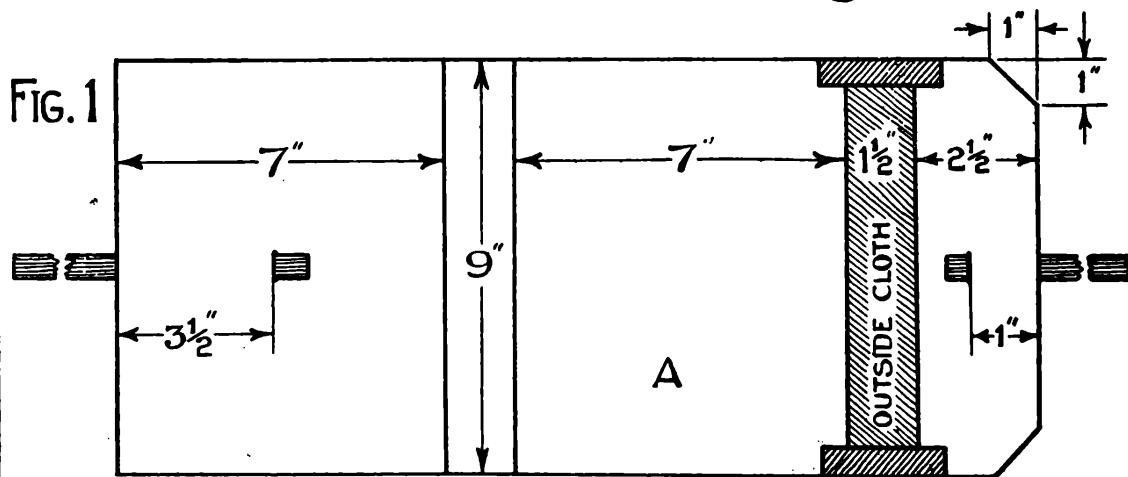


FIG. 1



EXERCISE 17.

WALLET WITH NOTE BOOK

Method of Construction.

1. Cut from 8 oz. strawboard two boards 5 in. $\times$ $3\frac{1}{2}$ in.
2. Cut out a piece of thin card 5 in. $\times$ 3 in.
3. Cut out a piece of covering cloth 8 in. $\times$ 6 in.
4. Glue the cloth, place the boards on it as in Fig. 1. Place the thin card on the outer edge of one board and turn over the cloth as in previous Covering Exercises. Put under weight to dry.
5. When dry cut the cloth between the card and the board at the point A—Fig. 1.
6. Cover the inside of the joint with a strip of cloth and allow it to overlap to $\frac{1}{4}$ in. under the thin card on one side and $\frac{1}{4}$ in. on to the board on the other.
7. Cut a piece of stiff paper 6 in. $\times$ 5 in. and cover one side with a lining paper. Fold this down the middle with the lining paper inside so that it is a double sheet 5 in. $\times$ 3 in.
8. Cut two pieces of cloth 3 in. $\times$ $\frac{3}{4}$ in. and fold into gussets—Fig 2.
9. Glue the inner faces of the two outer folds of the gussets—Fig. 2.
10. Place the gussets inside the two ends of the folded paper with the glued portion on the outside of the paper—Fig. 3.
11. Glue the pocket thus formed, with its opening inwards, to the inside of the board reserved for it—Fig. 1.
12. Cover both the thin card and the side of the pocket with lining paper, turning $\frac{1}{4}$ in. over on to the inside.
13. Make a small note-book with thin card back to fit behind the thin card of the wallet. The back of this should be covered with lining paper to match the inside of the wallet.

WALLET WITH NOTE BOOK

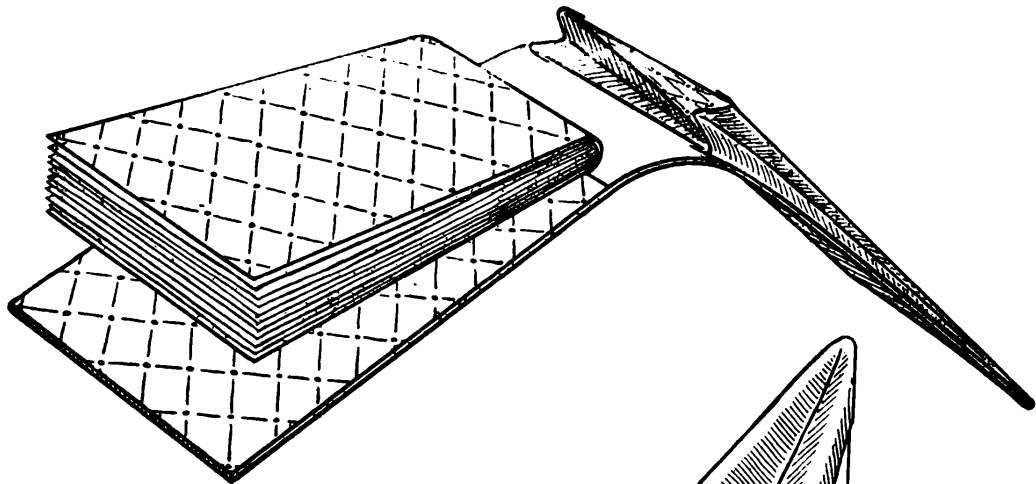


FIG. 2

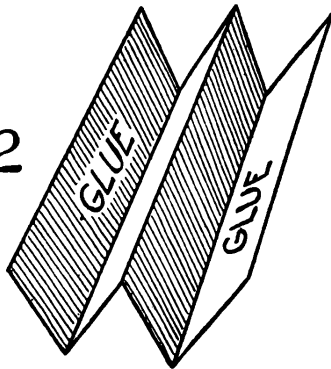


FIG. 3

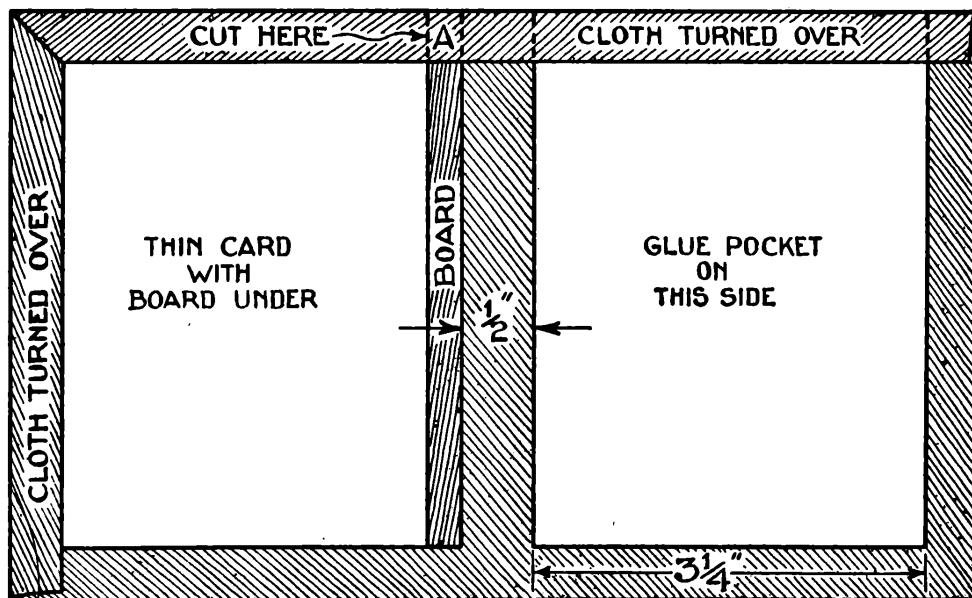
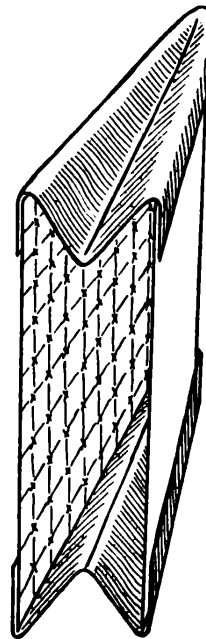


FIG. 1

EXERCISE 18

CASE BINDING A SINGLE SECTION BOOK

Note.

Binding a book in a cover or "case" which has been made separately is called case-binding or casing.

Method of Working.

1. If the book is one to be rebound, remove the wires or the old sewing.
2. Guard or mend any torn pages—see pp. 32 and 36.
3. Fold two sheets of paper round the section for end-papers. If "fancy" papers are used, they should be placed as in Fig. 1.
4. Cut a strip of thin calico as long as the section and from $1\frac{1}{2}$ in. to 2 in. wide, and fold it down the middle.
5. Paste the inside of this strip, place the section in the fold and rub each side down—Fig. 2.
6. Sew the section through leaves and calico.
7. Mark out and cut the edges.
8. Cut the two "boards" from a medium thickness of straw-board (8 oz. or 12 oz.). These should be as wide as the book and $\frac{1}{4}$ in. longer.
9. Cut a strip of paper as long as the boards and $\frac{1}{8}$ in. wider than the thickness of the book.
10. Cut a piece of cloth and cover the boards (see Exercise 17), but separating them by the paper strip or "hollow," as in Fig. 3.
11. Cut off $\frac{1}{8}$ in. from head, tail and fore-edge of the end-paper as was done in Exercise 14.
12. Paste the end-paper, after first protecting the other pages by placing a piece of waste paper under it—Fig. 4.
13. Place this pasted side on one board of the case; see that it is $\frac{1}{8}$ in. from the head, the tail and the fore-edge—Fig. 5.
14. Paste the other end-paper and pull over the other board until it is directly above the first board.
15. Place a weight on the book to prevent the boards bending or "warping," and leave to dry—Fig. 6.
16. Add the title and, if desired, decorate the cover.

CASE BINDING A SINGLE SECTION BOOK

FIG. 1

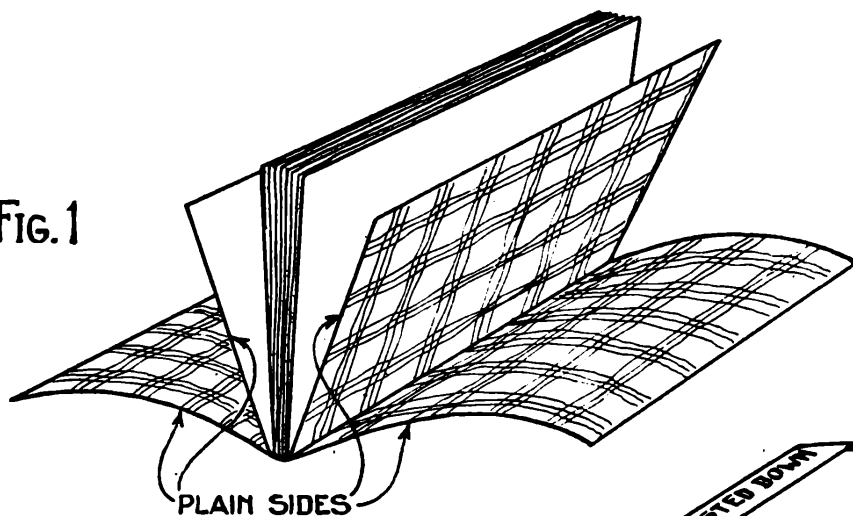


FIG. 2

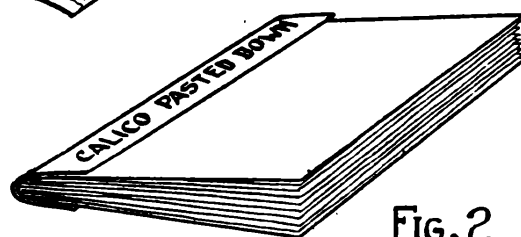


FIG. 4

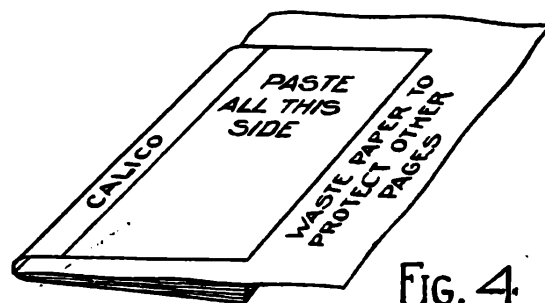


FIG. 3

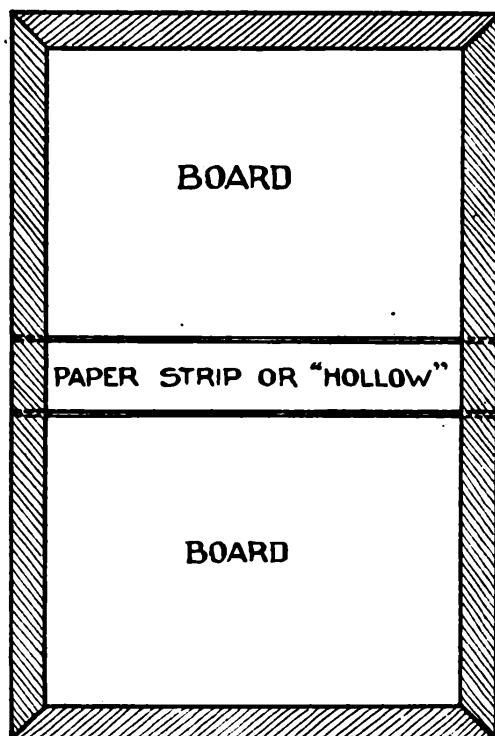


FIG. 5

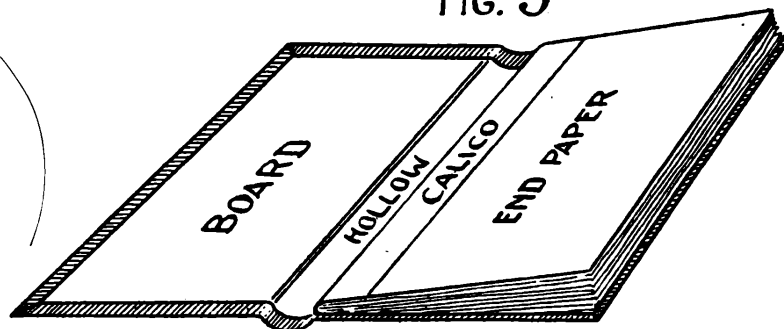
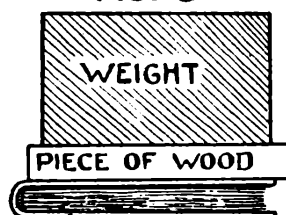


FIG. 6



EXERCISE 19.

CASE BINDING A BOOK OF THREE OR FOUR SECTIONS

Method of Working.

1. Take the book in pieces, carefully remove glue and old stitching, and guard and mend any torn pages.
2. Knock up the sections to the head and back and carefully cut all to the same size.
3. Place all the sections together, knock them up square and mark off for sewing as in Fig. 1. Three tapes will be sufficient for most school text-books.
4. Cut pieces of tape long enough to reach round the back of the book and overlap 1 in. on each side. Odd strips of binding cloth will serve, or ordinary tape which has been stiffened with a coating of thin glue. Bend these strips 1 in. from the end—Fig. 2.
5. Place the first sections front downwards and head to the right. Slip the bent ends of the tapes into their proper places under the section. Hold the section open with the left hand and make holes from the outside, with the needle, on each side of the tape and at the “kettlestitch” mark.
6. Commencing with the kettlestitch at the head and leaving about 2 in. of thread loose at the beginning, sew the section to the tapes. Finish at the tail kettlestitch, place the next section in position so that the pages follow each other correctly, and, commencing with the kettlestitch, sew back to the head again. Pull the thread in the direction of the sewing to make it tight and tie it to the loose end, which also pull tight. Add the other sections, sewing in the same way. When a kettlestitch is reached, it must be caught up to the last kettlestitch as in Figs. 3 and 5.
7. Cut two sheets of end-paper, fold them down the middle, paste a $\frac{1}{8}$ in. strip along the folded edge and fix one to each end. When dry, cut these to the size of the sections—Fig. 6.
8. Knock head and back square again, then glue the back, rubbing in the glue with the finger.
9. When the glue is set, place the book on a cutting board on the edge of the table, hold the pages tightly together with another cutting board or a piece of wood and sand-paper the edges smooth. Use fine sand-paper wrapped over a small block of wood—Fig. 7.
10. Glue a strip of paper up the back of the book—Fig. 8.
11. Cut boards and a “hollow” as Exercise 18, and make a “case.”
12. Paste down the tapes to the end-paper, then paste the end-papers and finish the covering as with the last Exercise.

CASE BINDING A BOOK OF THREE OR FOUR SECTIONS

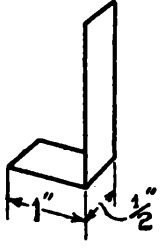
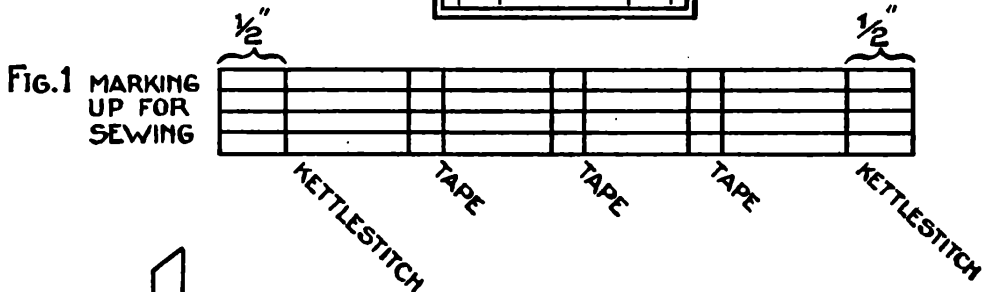
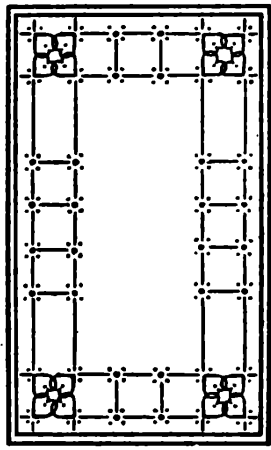
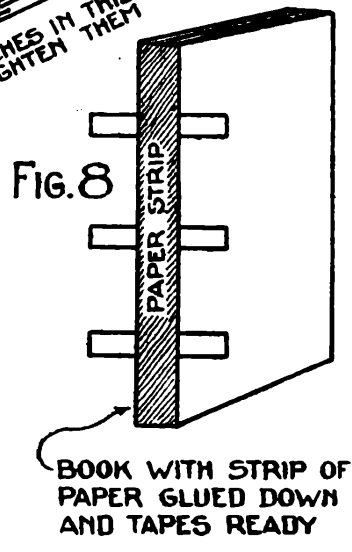
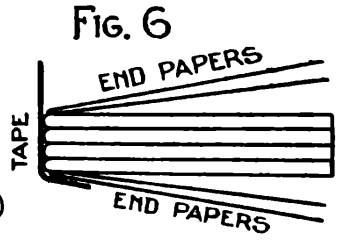
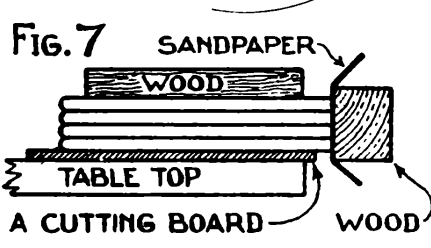
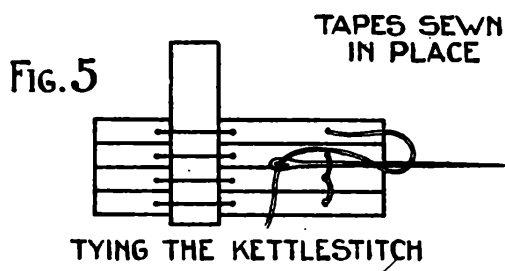
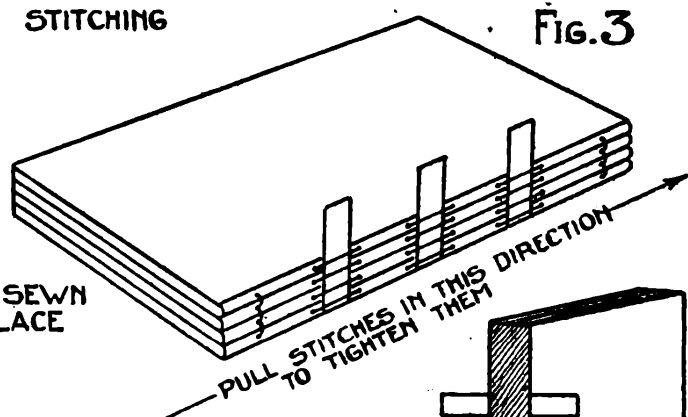


FIG.2 STIFF TAPE



DECORATION

Wherever possible, an attempt has been made in this book to suggest suitable designs for the decoration of each Exercise. The wise student, however, does not content himself with copying a design invented by someone else ; he invents his own.

For many of the Exercises the most suitable outside decoration would be either a simple border pattern or an " all-over " pattern.

Sometimes the contents of a book or its title, as in the case of the School Magazine in Exercise 14, suggests a slightly different form of decoration. Thus a suitable decoration for a book on Astronomy would be an " all-over " pattern in which the unit was a star. The unit for a book on War might be a sword and on Kingship a crown. Appropriate units for books dealing chiefly with England, Scotland, Ireland and France would be the rose, thistle, shamrock and fleur-de-lys.

Opportunity should always be taken of using this suggestive form of treatment.

Border Patterns.

Usually border decoration consists of straight lines of different widths and thicknesses, an arrangement of small units in a line, or a combination of the two. Simple examples are shown in Exercises 9, 10, 16 and 19. A few more are shown on the opposite page.

" All-over " Patterns.

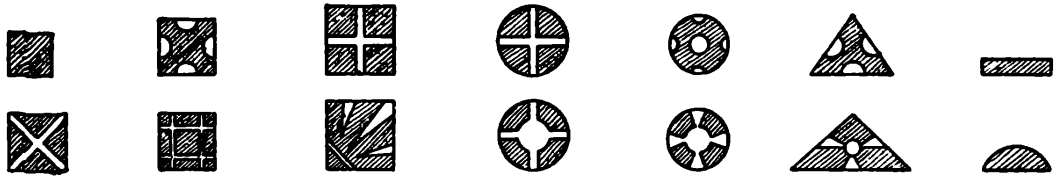
The " all-over " pattern is generally built up on a framework of squares, diamonds or circles, each one containing a unit pattern or having the pattern at each corner.

For designs made up of a number of small units, a bookbinder sometimes uses brass tools, *e.g.* Fig. 1, p. 47. Each one of these prints one unit or part of a unit.

A similar method might be adopted by the young bookbinder.

*Begin in this way :—*Design a number of unit patterns based on the square, triangle or circle, and cut them out on the ends of pieces of wood about 7 in. long—Fig. 2, p. 47. In most cases the patterns can be cut quite easily with a saw, a knife or a file. The end may now be dipped in ordinary water-colour paint, fairly thick, and the pattern printed. An endless variety of patterns may be made by combinations of these sticks.

DECORATION

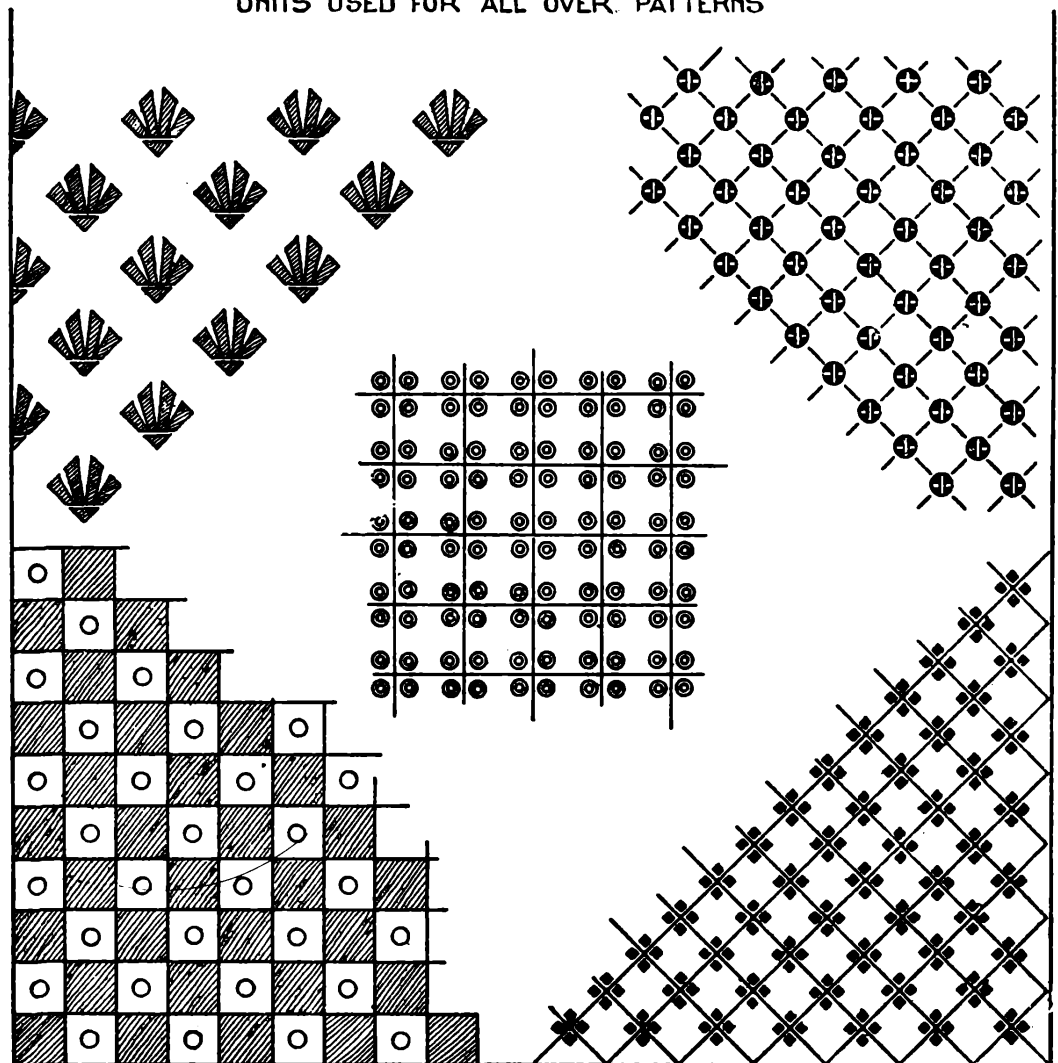


A FEW UNITS FOR PATTERN MAKING



UNITS USED FOR BORDER PATTERNS

UNITS USED FOR "ALL OVER" PATTERNS



Methods of Preparing Lining and End-papers.

Lining and end-papers may be prepared in a variety of ways. The stick-printing method previously described may be used, or a similar method in which the units are cut in potato, rubber or linoleum instead of wood. Stencilling, too, lends itself excellently to the making of end-papers, and the following methods also produce delightful effects :—

1. *With paste, by folding and rubbing.*—Take a sheet of white paper and give it a coat of paste made fairly thick and tinted slightly with a colour to harmonize with the colour of the cover. Place spots of suitable colour here and there on the sheet (see notes on “Colour” below). A few spots of a contrasting colour may be added if desired. Fold the sheet in two while still wet and rub the top sheet. Pull the sheets apart and leave to dry.

2. *By means of a comb.*—A sheet of white or plain coloured paper is coated with paste as before. Comb the wet surface with a piece of cardboard cut to the shape shown on the opposite page. Different patterns may be made by varying the colours used, by varying the teeth of the comb, by making straight lines, wavy lines and crossed lines, by combing the whole surface and by leaving panels of uncombed paper. An endless variety of lining papers can be made in this way.

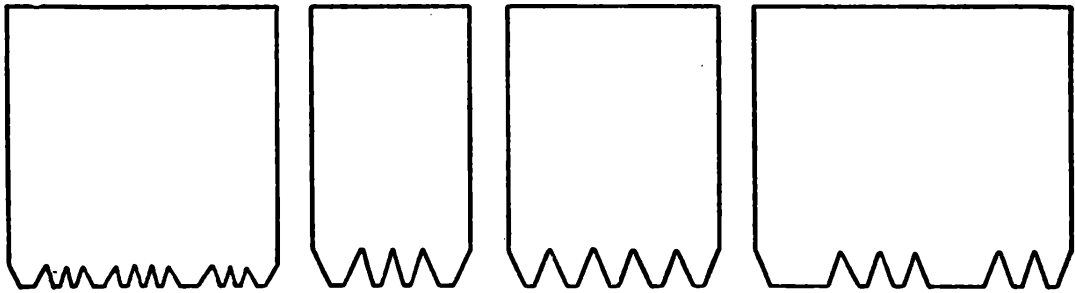
Colour.

Much care must be given to the choosing of a good colour scheme. The colour of the covering paper and the colours used in the decoration must blend pleasantly or be in pleasing contrast with the cloth used for binding.

Generally the colour of the binding cloth will be the chief colour. The other colours should be those which contain some of this colour in their composition, *e.g.*, red should be accompanied by reddish brown, purple, orange or grey. Blue should be accompanied by green, purple or grey. If the scheme should seem weak and “washed-out,” introduce a little contrasting colour, *e.g.*, green with the red or orange with the blue.

Often other matters must be considered, too, in choosing a colour for a book. A “House” magazine in a school should have a colour scheme in which the chief colours are those of the House. If a school has a particular colour of badge or tie, that colour should enter largely into the colour scheme of its magazine cover.

DECORATION



CARDBOARD COMBS

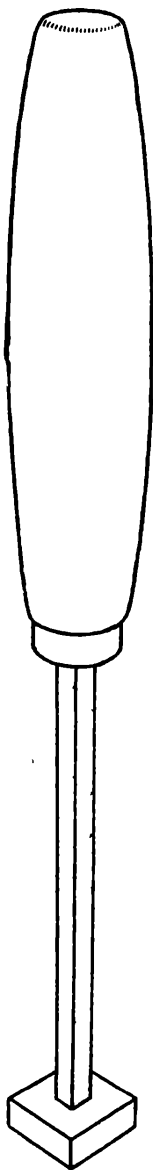


FIG.1

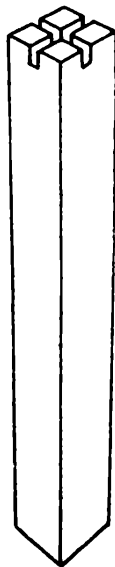


FIG.2

Colour too, should be appropriate to the subject-matter. Green, for instance, should play a great part in the colour scheme for a story of Robin Hood, and red would be the chief colour of a book on war. In the same way, brown suggests a workshop, white stands for purity and refinement and blue for knowledge.

Lettering.

The title takes a very important place in the design of a book. Generally it is placed in a frame or panel. Before adding the title to a book, the student should roughly draw out the pattern of the back and experiment until he finds the most suitable position. In most cases this will be in the centre of the cover, centrally in the upper portion of the cover, or near the top left-hand corner. The lettering should fit comfortably into the panel and should be arranged so that it is easy to read. A simple type of letter, such as the Roman Capital, should be used and all fancy types avoided.

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